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The influence of other persons and different situations on counterfactual thinking

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The influence of other persons and different situations on counterfactual thinking

Introduction

Never regret anything you have done with a sincere affection;

nothing is lost that is born of the heart. –Basil Rathbone (Jézégou, 2010)

In everyday life people encounter circumstances where other people (e.g. friends or family members) influence their choices. Imagine that Gemma has a job interview, her boyfriend Jake asks her to go there by public transport because he needs the car that day. The train arrives late and therefore Gemma is late for her interview and does not get the job in the end. This or similar events can happen quite often and one interesting part is what Gemma thinks about this particular event. Does she feel any anger, regret or other negative emotions? Does she mentally undo the event? Does she think it is her fault or does she attribute the fault to Jake? Specifically, does Gemma generate a counterfactual thought to undo the event and eventually learn from it for the future? Would the same be true if the situation was not about a job application but about an accident, e.g. that while Emma was sitting in the train it was hit by a car and she was injured?

Counterfactual thoughts are thoughts like "What if…" (Sanna, 2000). Gemma could generate the following thought: If I had taken the car I would have been on time for the interview and would have gotten the job. Or she could think: If Jake hadn't wanted the car I would have been on time for the interview and would have gotten the job. Whatever the counterfactual thought looks like in detail, it is quite likely that she would undo the past through counterfactual thinking. This in turn could lead to learning from that event (e.g. Epstude & Roese, 2008), e.g. that Gemma would not lend Jack the car again.

This dissertation is concerned with the impact of social influence and specific content domains on counterfactual thinking. Do socially influenced or different situations lead to

more or less counterfactual thinking and why? I will illustrate content specific effects on the domain of health versus wealth. Furthermore, this dissertation is also concerned with the mechanisms that lie beneath the specific content domains and tries to integrate them and social influence into a new model of counterfactual thinking.

First, social influence is concerned with whether people generate counterfactual thoughts in circumstances where other people influence them in their choices or where they do not have any choice. There is a lot of research about when counterfactuals are more likely to occur and when not. However, there is no work (at least to my knowledge) to how people behave when other people influence their decisions. So far research only concentrated on self-determined situations. It is, however, important to look at counterfactuals in social situations as they occur most often in everyday life. Many people cannot decide on their own what they will or will not do because family, partners, and friends influence their choices every day. This influence in turn might lead to more aspects that can be mentally undone and therefore heighten the availability of counterfactual thoughts.

Second, different content domains are concerned with the influence of different situational aspects on counterfactual thinking in particular. Research (e.g. Gilovich & Medvec, 1995; Kahneman & Tversky, 1982) so far found differing results (e.g. that sometimes inactions lead to more counterfactuals compared to actions and vice versa), but neglected the possible impact of content domains on counterfactual thinking and their part in varying results. This dissertation mainly concentrates on a domain I call health versus wealth, but the results shall be transferable to other content domains as well. I assume that health is more important than wealth. You cannot buy health for money. You can hope for it but not buy it anywhere. Health is one of the last bits money cannot buy. That is why most people would agree that health is more important than wealth. However, research on life regrets (e.g.

Roese & Summerville, 2005) suggests that the big things someone regrets in life are not issues about health but about wealth. Imagine the following scenario. Gemma lends Jack the car and takes the train to work. The train is hit by a car at a crossing. Because of the collision Gemma is injured. Would this situation lead to the same generation of counterfactual thoughts as the situation where Gemma did not get the job? Do situations concerning health lead to the same counterfactuals as situations concerning wealth? I assume that counterfactuals vary in their generation in different situations and that differing results in counterfactual research can be explained through the moderation of content domains.

Third, this dissertation also deals with the mechanisms that lie beneath the different content domains (Part Two). Norm theory (Kahneman & Miller, 1986) suggests that people use an internal norm to compare situations and that a deviation from this norm leads to counterfactual thinking. I assume that different content domains inherit different norms and that this in turn leads to varying frequencies of counterfactual thoughts.

Theoretical Background

Counterfactual thinking

Counterfactual thoughts are thoughts that are contrary to the facts and are "alternative versions of the past" (Roese, 1997, p. 133). A counterfactual includes the identification of an antecedent of a specific outcome, undoing it, and generating a new consequent (Roese, 1997). In the former example of Gemma, the antecedent would be *not having the car* or *Jake needing the car*. The new consequent of *having the car* would be that Gemma *got the job*. It is essential of a counterfactual that the antecedent and the consequent are never correct (Goodman, 1988). Amongst other things people do or do not do something and this leads either to a negative or a positive outcome (e.g. Landman, 1987, Markman, Gavanski,

Sherman, & McMullen, 1993, Roese & Olson, 1993). This in turn can lead to the generation of counterfactual thoughts. The factors that influence the generation of counterfactuals are illustrated later.

Counterfactuals can be classified by their direction of comparison in *upward* and *downward* counterfactual thoughts (Roese, 1994). Upward counterfactuals "improve upon reality" (McMullen, 1997, p. 78), meaning that they visualize a better outcome than what actually happened. For example, Gemma's upward counterfactual could be: If I had not given Jake the car, I would have been on time. Those thoughts generally lead to a negative affect. However, downward counterfactuals lead to a positive affect (Markman et al. 1993) and "worsen reality" (McMullen, 1997, p. 78). It compares reality to worse outcomes. In the case of Gemma it could be the following thought: If I had not taken the train, I would have been in a car accident. Upward counterfactuals have, through the identification of causal antecedents for the outcome, a preparative function (Markman et al., 1993). Therefore, they can lead to learning from past events (Roese, 1994). This is very important in case similar events occur again in the future. In the Gemma's case it is quite likely that she would not lend Jake the car again if she had a job interview.

This dissertation only includes upward counterfactuals. First, people have the possibility to learn through the identification of a possible antecedent. Second, people seem to generate more upward counterfactuals in general, and third, they do so even after positive events (Markman et al., 1993).

Norm Theory

Norm theory describes how and in particular when counterfactual thoughts are generated (Kahneman & Miller, 1986). According to this theory, people are more likely to

generate a counterfactual if the event deviates from an internal standard or the norm, respectively. If the outcome deviates it leads to counterfactual thinking. However, only after an outcome is seen, people build up their own norm. That means that the existing norm is only construed after an event has occurred. People compare the event with similar events and review whether this outcome is normal. If this is not the case, thus the outcome is abnormal, people search for alternatives of the outcome. In this process, many alternatives are produced that only differ in their activation. If there are expectations before the event occurred, those expectations are taken into account for the building of the norm. If no expectations exist, the outcome is normal, provided that no alternatives are generated (Kahneman & Miller, 1986).

Kahneman and Miller (1986) suggest that an essential part of norm theory is *mutability*. It refers to the ease of how an alternative can be imagined. The contrast of the actual event and the counterfactual alternative generates surprise. This leads to the review of the outcome with the norm. The higher this deviation, the higher is mutability. As will be discussed in the next chapter, some antecedents have a higher mutability than others. For example, an event that is exceptional can be mutated into a normal event more easily than vice versa. Aspects that are difficult to alter, thus are immutable, will be integrated into the norm (Roese & Olson, 1995). Aspects considered as the causal factor for an outcome must be mutable (Wells & Gavanski, 1989) to generate a counterfactual thought.

An outcome always leads to an emotional reaction (e.g. regret, happiness, anger). *Emotional amplification* refers to the higher emotional reaction to abnormal events (Kahneman & Miller, 1986). Kahneman and Miller (1986, p. 146) "…confirm the correlation between the perception of abnormality of an event and the intensity of the affective reaction to it, whether the affective reaction be one of regret, horror, or outrage." An important emotion in counterfactual thinking is regret. Regret is "a negative emotion predicated on an

upward self-focused, counterfactual interference" (Roese & Summerville, 2005, p.1273). The degree of regret is commonly used to indicate the likelihood of generating a counterfactual thought (e.g. Kahneman & Miller, 1986) and is a common approach in counterfactual research. If regret exists, a counterfactual must have been generated.

Norm theory (Kahneman & Miller, 1986) can explain why an event might lead to counterfactual thinking, meaning if the event is perceived as abnormal but neglects the influence of others. I assume that social influence can either be perceived as normal or abnormal, depending on someone's experiences. However, if a negative event occurred, the influence per se can be seen as a causal antecedent that might be mutated. This might in turn lead to a higher mutability.

The Two-Stage Model of counterfactual generation

Besides the mutable determinants, which norm theory suggests, there are also motivational variables that influence when people are more likely to generate counterfactuals. The Two-Stage Model of counterfactual generation by Roese and Olson (1995, see figure 1) describes which variables have an impact on the availability and the semantic content of counterfactuals. Availability refers to the first stage and "is the mere consideration that the factual outcome might not have occurred" (Roese & Olson, 1995, p. 9). The semantic content refers to the second stage and "specifies the means by which some alternative outcome might have been brought about" (Roese & Olson, 1995, p. 9). Motivational as well as mutable variables have an impact on availability and semantic content.

Motivational variables are outcome-based, meaning that they refer to a target-outcome and trigger the generation of counterfactuals and therefore their availability (see arrow 2). These variables are *expectancy*, *outcome valence*, *closeness*, and *involvement*.

Expectancy refers to the fact that unexpected events lead to counterfactuals which show the expectant outcome (Roese & Olson, 1995). As seen before, this is one of the main theses of norm theory (Kahneman & Miller, 1986). Something that is abnormal is unexpected, leads to surprise, and has to be mentally reconstructed. For example, getting a poorer grade than expected can lead to searching for the causal factors.

Outcome valence refers to a positive or negative outcome. Negative outcomes seem to lead to more counterfactuals (e.g. Sanna & Turley, 1996) than positive events. Those events are unwanted and motivate to cognitively undo them (Roese & Olson, 1995). They can also lead to learning for the future (Markman et al., 1993). For example, failing an exam can lead to identifying that preparation was insufficient and to more studying in the future.

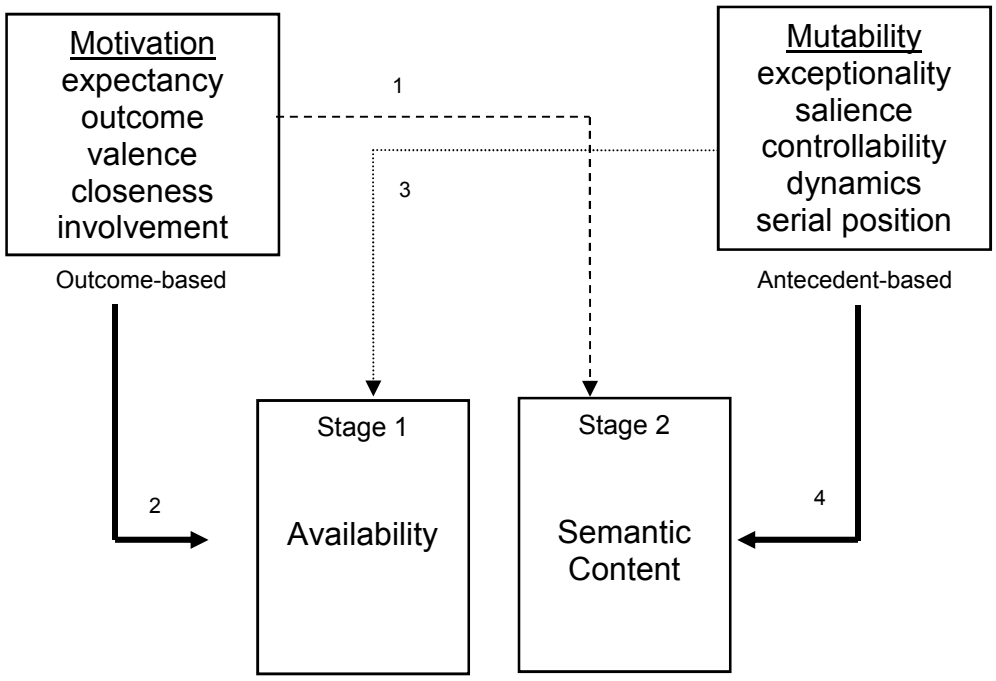

Figure 1. A two-stage model showing the outcome and antecedent based factors that influence the availability and the semantic content of counterfactual thinking. Adapted from "Counterfactual Thinking: A Critical Overview", by N. J. Roese, and J. M. Olson, 1995, in "What might have been: The Social Psychology of Counterfactual Thinking", by N. J. Roese, and J. M. Olson (Eds.), Mahwah, NJ: Lawrence Erlbaum Associates, p.11.

Closeness refers to the closeness of an outcome to a favorable event. For example, having five correct numbers in the lottery is closer to the desired six correct numbers than having three correct. This generates the feeling that it almost happened and therefore leads to counterfactual thinking (Roese & Olson, 1995).

The last motivational variable is involvement which refers to personal relevance. Meyers-Levy and Maheswaran (1992) showed that the availability of counterfactuals rises through the affective involvement of a person. For example, if a person is involved in an accident she is likely to undo it, but if she only watches one she might feel negative affect but is unlikely to undo the event (Roese & Olson, 1995). In summary, unexpected, negative or close events, where someone is personally involved, heighten the availability of counterfactual thoughts but also have an impact on the semantic content.

Mutable variables are antecedent-based, meaning, that they describe the antecedent that led to the outcome and describe the semantic content of the counterfactual (see arrow 4). Those variables are *exceptionality*, *salience*, *controllability*, *dynamics*, and *serial position* (Roese & Olson, 1995).

Exceptionality corresponds to actions that are done routinely or exceptionally (Roese & Olson, 1995). As mentioned before, exceptionality is one of the main statements of norm theory (Kahneman & Miller, 1986). If an action is exceptional it is abnormal and therefore it is more likely to be undone, but not in the direction of more exceptional actions but rather in the direction that a normal action would not have led to this outcome (Kahneman & Miller, 1986). However it has to be mentioned, that exceptional outcomes and exceptional actions are quite rare (Roese & Olson, 1995). Gavanski and Wells (1989) have concluded from their own studies that only the exceptional action is undone if the outcome is exceptional, and if the outcome is normal, the normal action is undone.

Salience refers to commission versus omission, respectively, to action versus inaction (Roese & Olson, 1995). It is not clear whether commissions or omissions lead to more counterfactual thinking. There is a lot of research for both sides; therefore, this dispute is illustrated in the next chapter, and this dissertation tries to answer this long-lasting question.

Controllability corresponds to the possibility of people to manipulate certain outcomes or at least influence them; whether they have control or only perceive it (Roese & Olson, 1995). The problem on most research on control is that the manipulation was confounded with internality. Girotto, Legrenzi and Rizzo (1991) found that participants mostly undid *going to the gym* comparing to *having an asthma attack*. However, Markman and colleagues (1993) manipulated control without confounding it with internality. They found that participants mutated the aspects they perceived to control even though it was a game of chance and they did not have any control.

Another mutable variable in counterfactual thinking is dynamics, which refer to varying versus static aspects. People tend to alter the varying aspects (e.g. performance) and not the static aspects (e.g. ability, Roese & Olson, 1995) which is comparable to Kelley's (e.g. Kelley & Michela, 1980) model of attributional thinking.

The last mutable variable is serial position. It corresponds to the more likely undoing of events that come early in a series (primacy effect). However, this seems only to be the case if it is a causal series (Roese & Olson, 1995). If the events are independent of each other, the later events are more likely to be undone (recency effect, Miller & Gunasegaram, 1990).

This dissertation concentrates mainly on salience, as the decision of doing or not doing something is very prevalent in everyday life, and is more common than for example exceptional actions. Moreover I assume that other people influence one most in the decisions

of doing or not doing something. Furthermore, this factor can also be used in health and wealth situations and as illustrated in the next chapter can lead to a possible answer for the divergent findings in commissions and omissions. In the experiments reported here, the outcomes of the vignettes are unexpected, negative, and the protagonists are personally involved. Closeness and dynamics are not variables in this particular research. I did not manipulate controllability per se, but the influence of other persons on the protagonist's decisions because I assume that social influence and control are different constructs. All vignettes consist of causal antecedents.

The dispute of commission versus omission

It is still not clear whether people generate more counterfactuals if a commission or an omission led to a negative outcome. On the one hand, vignette studies show that commissions are regretted more than omissions (e.g. Kahneman & Tversky, 1982). On the other hand, studies show that omissions are more regretted retrospectively (e.g. Feldman, Miyamoto, & Loftus, 1999). Gilovich and Medvec (1995) show evidence that the experience of regret underlies a temporal pattern. Commissions are regretted more in the short and omissions more in the long run. One reason for this could be the Zeigarnic effect; an incomplete task keeps the tension upright as long as it is not finished (Lewin, 1935, as cited in Gilovich & Medvec, 1995). Therefore, the omission stays available. Another reason could be that "more dissonance reduction tends to be induced by regrettable actions" (Gilovich & Medvec, 1995, p. 286), and the regret of omissions does not lessen through dissonance reduction. Moreover, people can imagine more and more possible outcomes for an omission, but only one alternative outcome for the commission.

However, Kahneman (Gilovich, Medvec, and Kahneman, 1998) criticized that Gilovich and Medvec (1995) treated both forms of regret (of the commission and the

omission) as one emotion. He suggested that minimal two emotions (hot and wistful regret) are distinct, even though they both fall under the title of regret and provide a different explanation for the temporal pattern (Kahneman, 1995). In studies conducted together Gilovich, Medvec, and Kahneman (1998) found that commission and omission lead to different forms of regret; hot emotions as for example anger, wistful emotions as for example sentimental, and despair emotions as for example sadness. They also agreed that the consequences of omissions take longer to manifest. Leach and Plaks (2009) suggest that the temporal pattern of regret is mediated by the level of abstraction. They found that participants regretted the omissions more in the long run when it was described abstractly.

However, I find the explanations insufficient. The temporal pattern was criticized not only by Kahneman (1995) and Leach and Plaks (2009), but also by Byrne and McEleney (2000). They found that participants only undo omissions from the distant past "when the imagined consequences of the mentally undone inaction are unknown and possibly better than the real consequences of the inaction" (p. 1327). Beike and Crone (2008) also found that the regret of actions did not fade over time, nor that the disappointment of omissions faded. The emotional explanation (e.g. Kahneman, 1995; Gilovich, Medvec & Kahneman, 1998) is criticized by Feldman and colleagues (1999). They showed that the regret experienced through commissions and omissions is equally intense. Neither the temporal pattern nor different emotions explain when it is more likely to generate counterfactuals.

It still seems that there is no sufficient explanation of what leads to those different findings. I suggest that what people regret depends more on what is regretted, and that not emotions or time, but situations or content domains moderate when counterfactuals are more likely to be generated. Many studies, where researchers found that commissions led to more counterfactual thinking, were about issues concerning wealth (e.g. Gleicher et al., 1990;

Landman, 1987). For example, Kahneman and Tversky (1982) used a vignette about switching or not switching shares to show that commissions are regretted more. However, in studies where researchers found that omissions led to more counterfactual thinking, the studies were concerned with health issues. For example, Davis, Lehman, Wortman, Silver, and Thompson (1995) found that in real life health scenarios more people regretted the omission. These examples suggest that the main difference is not necessarily whether people did or did not do something but more what did the (in-) action effect. As one of the differences between the former examples is that the studies were either about health or wealth issues, I propose that the difference between health versus wealth moderates this effect. As found in former studies, health could lead to increased regret in errors of omissions (e.g. Davis et al., 1995) and wealth could lead to more regret in situations where a commission led to a negative outcome (e.g. Kahneman & Tversky, 1982). Thus, health versus wealth shall interact with commissions versus omissions.

Health versus Wealth

Roese and Summerville (2005) analysed what people regret most. They report that people regret issues about their education (32.2%) and career (22.3%) the most. Interestingly, only 1.47 % regretted health issues. Only 2.46 % of the sample regretted issues about finances directly. I would suggest that wealth is in general a "tangible or intangible thing that makes a person, family, or group better off" (Business Dictionary, 2011). Therefore, I refer to wealth issues as all aspects of handling money (i.e. loss or spending) and aspects that are needed to earn money (i.e. good education or career). In contradiction to wealth issues I define health issues as all aspects about health that have nothing to do with money. I suggest that those definitions are most consistent with those of naïve people. By this definition,

wealth issues account for 56.96 % of the most regretted aspects in life (Roese & Summerville, 2005).

I define health as all issues concerning the person's physical and psychic wellbeing (e.g. injuring). Therefore, health would also consist of leisure (i.e. sports) or spirituality (e.g. religion), as those aspects can improve the wellbeing. Thus, health issues would account for approximately 5% of regrets (Roese & Summerville, 2005).

Health issues only account for 5%, whereas wealth issues account for more than half (57%) of lifetime regrets. I would suggest that the naïve view still is that health is more important than wealth. However, these findings from Roese and Summerville (2005) challenge the naïve view. But the former study has neither compared health and wealth issues directly nor in respect of commissions versus omissions. Do health issues in general lead to more regret because health is more important? Or is it just socially more acceptable to say that health is more important and health and wealth are equally important?

As Roese and Summerville's (2005) results indicate, I propose that health and wealth are at least equally important and that health is no more important than wealth. If health factually was more important than wealth, health would need to account for more than just 5% of life regrets. I assume that it only is socially more desirable to say that health is more important. If there was a difference in the importance of health and wealth issues, wealth issues would be more important, as 57% of life regrets contain wealth aspects.

Social influence

As introduced earlier, this dissertation is also concerned with how counterfactual thinking functions if other people influence one. I refer to social influence as the influence of other persons on someone's decisions either due to requests, obligations, or expectations,

thus, if people persuade others to change their behavior. I assume that people who are influenced by others are at least partly responsible for their decisions, that they have control over their actions or inactions at least to some point, and that they have the choice to comply with the influence.

However, it is necessary to see social influence as a different construct than control, choice, or responsibility. In the studies about responsibility and regret (e.g. Connolly, Ordóñez, & Coughlan, 1997; Ordóñez and Connolly, 2000; Zeelenberg, van Dijk, & Manstead, 1998; Zeelenberg, van Dijk, & Manstead, 2000) and in most studies about control and counterfactual thinking (Girotto et al., 1991; Markman et al., 1993) the no-responsibility or no-control condition consisted of chance, computers, or other no-influential aspects. Therefore, I do not use the terms responsibility or control for the influence of other persons on one's actions or inactions, but the term influence.

There is also a dispute about whether regret necessarily contains responsibility for the choices one makes. Some researchers (e.g. Zeelenberg, van Dijk, & Manstead, 1998; Zeelenberg, van Dijk, & Manstead, 2000) argue that regret correlates with responsibility and that the construct of regret includes responsibility. "…Bad results make people equally unhappy whether or not they are responsible for them. But bad results make people regretful only if they bear responsibility" (Schwartz, 2005, p. 151). However, other researchers (e.g. Connolly, Ordóñez, & Coughlan, 1997; Simonson, 1992) suggested that responsibility and regret are different constructs. Ordóñez and Connolly (2000, p. 141) ended the dispute by showing that "if one makes a decision that leads to a poor outcome, one may regret the decision. If the poor outcome is imposed, one may still regret that it is not a better one." Therefore, the construct of regret might contain responsibility, but regret can also exist if someone is not responsible for the outcome.

Choice refers mainly to deciding between at least two options. Commissions and omissions could be said as two options, but in most research, choice is manipulated as extensive and limited choice (e.g. 6 vs. 24 different jams, Iyengar & Lepper, 2000). Choice is something everyone wants to have, and the industry floods us with many choices (e.g. similar products) we can choose from (Schwartz, 2005). People want this freedom of choice, but it is also clear that they are more satisfied if they have less choice (i.e. Iyengar & Lepper, 2000). Iyengar and Lepper (2000) also showed that participants who had more options to choose from experienced more regret. Hafner, White, and Handley (2012) revealed that counterfactuals play a crucial role in the paradox of choice. Counterfactual thoughts "were mediating the effect of choice on satisfaction under low but not high load" (p.32).

The research on choice, control, and responsibility shows that regret and counterfactual thinking exists were the freedom of choice is somehow manipulated. As I regard influence as a construct that consists of free will regardless of other's impact, I propose that regret occurs in all situations of social influence. This can also be in line with norm theory (Kahneman & Miller, 1986). If Lisa thinks about getting vaccinated against the flu this might be her decision to do it or not. Norm theory then would suggest that the norm is not getting vaccinated and if she does get the vaccination and it turns out other than expected, Lisa will experience regret. But now imagine a scenario of social influence. Lisa is asked by her boyfriend to get (get not) vaccinated. Is it still her decision? In some ways both situations can be considered as her own decision. People have a desire to be part of the society (Ryan, 1993, as cited in Ryan & Deci, 2006). If she will not do what her boyfriend asks her to do she might need to justify herself. This is something people try to avoid (Beattie, Baron, Hershey, & Spranca, 1994). Therefore, she is very likely to do what her boyfriend requests her to do. Moreover, Ricoeur (1966, as cited in Ryan & Deci, 2006) would assume that this situation can be self-determined if Lisa agrees in doing so. If complying with the situation

would then be the norm, Kahneman and Miller (1986) suggest that no regret would be experienced or no counterfactuals would be generated. Is this really the case? Would not be the compliance to the request have the highest mutability? I propose that it would and that Lisa would experience regret if the compliance turned out badly. Moreover, if the compliance is a free choice and I would put vaccination / no vaccination again as the decision per se, it would be clear that the vaccination would lead to most regret (because of the abnormality of an action). Taken these aspects into account, a situation where someone is influenced to do something or not by a request generates more alternative antecedents than a situation where someone is not influenced. Therefore, the mutability is much higher and thus more regret should be experienced and more counterfactuals shall be generated.

Another possibility of social influence could be that Lisa has to get vaccinated because her family dictates it. Now it seems that Lisa is fully influenced and no autonomous decision can be made. However, as Dworkin (1988, as cited in Ryan & Deci, 2006) postulates, Lisa could still decide self-determined if she fully approves the action or inaction. "For example, someone might feel constrained in stopping for a school bus if one assents (on reflection) to the value of traffic laws for ensuring children's safety, one could willingly consent to the constraint and, in doing so, lose no autonomy" (Ryan & Deci, 2006, p. 1562). Some people also "wish for some paternalistic decision maker to choose for them" (Beattie et al., 1994, p. 132). These assumptions also lead to the same suggestions as before: People will experience more regret if they are obliged to do something (comparing to those who are not influenced) because of the higher mutability of these situations. Thus, people will generate more counterfactuals in influenced situations.

Part One

The first part of this dissertation takes the former theoretical considerations into account. Hence, I propose the following hypotheses for the subsequent experiments:

1. Health issues are equally important as wealth issues.

2. Health versus wealth moderates whether a commission or an omission leads to more regret/counterfactual thinking and thus interact. In health scenarios omissions lead to more regret and in wealth scenarios commissions lead to more regret.

3. In situations which are influenced by other people either due to a request or due to an obligation, people experience more regret than people who are not influenced and generate more counterfactual thoughts.

I tested these hypotheses in five experiments including a total of 307 participants. Experiment 1 is a preliminary test to test the first hypothesis in two ways. First, participants had to rank negative health and wealth outcomes in respect of the severity (e.g. losses and injuries). Second, I asked them directly whether they find health or wealth more important. Experiment 2 combines health and wealth issues with counterfactual thinking and choice. It tests hypotheses 2 and 3. Participants had to read different vignettes of protagonists who either did or did not do something. The protagonist's choice was either totally free or minimized through a request or an obligation. The vignettes were about health and wealth issues. All factors were manipulated within participants. Then participants rated the protagonist's regret, wrote down a possible thought and ticked one of three given thoughts. Experiments 3 to 5 replicate Experiment 2 but manipulated the factors influence, health versus wealth, and commission versus omission between participants. Some researchers (e.g.

N'gbala & Branscombe, 1997; Zeelenberg, van Dijk, & Manstead, 1998) found no effect for commission versus omission if they manipulated it between participants. They argue that this effect would mainly be due to comparison. I agree with them that the effect exists only if a comparative judgment process takes place. However I argue that there is no such thing as commissions or omissions leading to more regret because it depends mainly on what is regretted, thus the moderation of health versus wealth, and this effect will be shown even if commission versus omission is manipulated between participants. I manipulated this factor between in Experiment 3. In Experiment 4, I manipulated health versus wealth between, and in Experiment 5 I manipulated choice between participants.

Experiment 1

In this preliminary test I researched whether people think that health is more important than wealth. If one or the other was more important, this could lead to limitations in the interpretation of the later results of the moderation of health and wealth and commissions and omissions. I asked participants to rank different scenarios of health and wealth and asked them directly what they find more important. I hypothesized that even though participants judge health as more important than wealth, this effect diminishes if they have to rank the scenarios. Thus, health is not more important than wealth.

Method

Participants and Design. Eighty (M_{age} = 34.08 years) participants took part voluntarily. Their age ranged from 18 to 70 years. The study was a one-factorial design where I manipulated health versus wealth within participants.

Materials and Procedure. I created twelve scenarios. Six scenarios were about issues of wealth (e.g. loosing money at the stock market or getting a poor grade from a professor)

and six were about health (e.g. breaking the nose or getting swine flu). I then composed two questionnaires with the scenarios where I varied the order of the scenarios. I instructed participants to rank those twelve scenarios, beginning with the worst that could happen and so on. At the end I asked participants directly what is more important for them, health or wealth.

Results

First, I analysed what participants found more important if asked directly. I coded health as 1 and wealth as 2. Only two participants answered that wealth was more important than health ($M = 1.01$, $SD = 0.11$). The difference was significant, χ^2 (1, $N = 80$) = 76.05, $p <$ .0001. Participants seem to find health more important than wealth, at least if asked directly. Second, I calculated a one-factorial ANOVA to test whether participants also ranked health scenarios worse than wealth scenarios if asked indirectly. The effect was not significant, $F(1, 79) = 1.76$, $p = .18$, $\eta^2 = .02$. If asked indirectly, participants do not show that health is more important than wealth.

Discussion

If asked directly participants reported that they find health more important than wealth. This can be due to many reasons, e.g. social desirability. However, if you ask them indirectly (like ranking scenarios), the picture is not as clear as before, and they did not find bad health outcomes as more severe than bad wealth outcomes. It seems that there is a discrepancy between what participants generally believe is more important to them and what they actually find more severe when divided into different scenarios. This finding can also lead to the assumption that it is unclear what they would regret more if something led to a negative outcome. However, this is a good aspect for a possible moderator. Neutral

moderators would not account for limitations as much as extremely valenced factors. In Experiment 2, I will test whether health and wealth moderates whether a commission or an omission leads to more regret, and whether people will really generate counterfactual thoughts to mentally undo those negative events.

Experiment 2

The goal of Experiment 2 was combining health and wealth with counterfactual thinking and influence to see whether people generate counterfactuals in situations where they are socially influenced. Moreover, I wanted to test on a within-participants basis whether the generation of counterfactuals in situations of commission and omission is moderated by health versus wealth in a within-participants design. I took the negative outcomes of the first experiment and embedded them into a short story. Each participant read 18 brief vignettes; half of them described health and the other half wealth scenarios. All vignettes existed in a commission and an omission version and influence was manipulated on three levels, with an increase of influence: Free Choice, Request Condition and Must Condition. Participants rated the regret of the protagonists. To ensure that participants generate counterfactuals and not any other thoughts, they also ticked one of three possible thoughts and made one free association of a possible thought the protagonist could generate. The given thoughts consisted of a counterfactual, an attribution to bad luck, and an acceptance of the circumstance. Regret was expected to be higher in the influenced situations, whereas lower in the freely chosen situations. I also expected that the more regret was anticipated, the more counterfactuals were generated and selected. Moreover, I expected health versus wealth to moderate whether a commission or an omission led to more regret; specifically that health led to more regret in omissions and wealth led to more regret in commissions.

Method

Participants & Design. Fifty participants (38 women, 12 men, M_{age} = 22.78 years, SD_{age} = 3.03) took part in Experiment 2. I recruited them at the canteen of the University of Heidelberg. They were paid 5 Euro for their participation. Experiment 2 is a 2 (Salience: commission vs. omission) x 2 (Aspects: health vs. wealth) x 3 (Influence: free choice vs. request vs. must) design, where I manipulated all factors within participants. The questionnaire consisted of 36 different stories, and for reasons of convenience each participant only read 18 vignettes.

Materials & Procedure. Experiment 2 was a paper-pencil questionnaire. As soon as the participants arrived, they were seated on a quiet table and the experimenter handed out the questionnaires. The instruction was as follows:

> *Dear participant,*
>
> *On the next pages you will find different stories of people. Please read them thoroughly. Then you shall write down a possible thought the protagonist of the story could have. Afterwards, please rate the possible regret of the outcome and tick a possible thought the protagonist could have.*

First, participants read a vignette and then wrote down a possible thought the protagonist could have thought. Afterwards, participants indicated the regret of the protagonist on a scale from 1 (no regret) to 5 (strong regret) and ticked one of three possible thoughts. They could choose between an upward counterfactual, an attribution to bad luck, and an acceptance of the circumstances (see appendix). After completion, the participants were debriefed, thanked, and paid.

The influence manipulation consisted of three conditions. From each condition to the other I increased the level of social influence. In the Free Choice condition (FC), the protagonist did or did not do the action *because she thinks it is necessary or she thinks it is good*. In the request condition (RC), an important person requested the omission or the commission (i.e. partner or family), and the must condition (MC) implied that the protagonist did not have a choice, i.e., it had to be done or it was not allowed.

In the health scenarios the protagonist always gets hurt, but the injury or sickness is curable, whereas in the wealth scenarios the protagonists lose money. The health scenarios consisted of three vignettes: Vaccination, Trekking, and Ski. The Vaccination vignette is based on Ritov and Baron's (1990) vaccination idea. However, to stay constant with other vignettes used in counterfactual research, and above all, to stay with decisions about one selves (e.g. Kahneman & Tversky, 1982), I changed it to the following.

> *Daniela is sick quite often. She has the feeling that as soon as there is any flu-virus around, she gets it instantly. Daniela thinks about getting vaccinated against influenza.*

The Trekking vignette read the following:

> *Andrea starts a trekking tour up into icy heights. She thinks about taking drugs against mountain sickness.*

The Ski vignette was as follows:

> *Dennis goes to Austria for skiing. After the incidents of the last years, he thinks about buying a ski helmet.*

The wealth scenarios also consisted of three vignettes: Stock, Train, and Quiz. The Stock vignette is based on Kahneman and Tversky's (1982) typical commission scenario of Mr. Paul and Mr. George.

Michael owns shares of company X. He thinks about selling them and instead buying shares of company Y.

The Train vignette read the following:

Markus wants to go to the main station by tram. He thinks about buying a ticket.

The Quiz vignette was as follows:

Lisa is a candidate in a quizshow and is currently at 60,000 € question. She wants to go for Answer D. The presenter gives her the opportunity to rethink her decision.

All vignettes carried on by saying that the protagonist did or did not do the former (salience manipulation), and by saying why (influence manipulation).

Results

First I calculated the internal consistency for the vignettes. Cronbach's alpha ranged from 0.69 to 0.72, and the stock vignette had the highest internal consistency. The vignettes have an acceptable consistency and can be used for further analyses.

Regret. I calculated a 2 (aspects: health vs. wealth) x 2 (salience: commission vs. omission) x 3 (influence: FC vs. RC vs. MC) ANOVA with repeated measures on all three factors. Some cells of the ANOVA included zeros because of the division of the questionnaire. I could not solve this problem by using a mixed linear model. Therefore, the calculation was done in two steps. First I calculated a 2 (version: 1 vs. 2) x 2 (salience:

commission vs. omission) x 3 (influence: FC vs. RC vs. MC) ANOVA with repeated measures on salience and influence. The two versions did not differ, $F < 1$. There was a main effect for influence, $F(2, 48) = 5.55$, $p < .05$, $\eta^2 = .19$. Participants felt the most regret in the Must-Condition, thus if they had to or were not allowed to do something ($M = 3.63$, $SD = 0.77$). The least regret was anticipated in the Free Choice-Condition, ($M = 3.37$, $SD = 0.84$). The more the situation was socially influenced, the more regret was anticipated. Salience did not differ significantly, $F(1, 49) = 2.28$, $p > .05$, $\eta^2 = .04$, nor was the interaction of salience and influence significant, $F < 1$. Second, I calculated a 2 (version) x 2 (salience) x 2 (aspects: health vs. wealth) ANOVA with repeated measures on salience and aspects to see whether health and wealth moderate whether commissions or omissions are regretted more. The two versions did not differ, $F < 1$. Therefore, the further analyses do not differ between the versions. The interaction of salience and aspects was significant, $F(1, 49) = 74.98$, $p < .0001$, $\eta^2 = .60$. Health versus wealth moderates whether a commission or an omission is regretted more (see Figure 2). Health led to less regret in the commission vignettes ($M = 3.00$, $SD = 0.67$) than in the omission vignettes ($M = 3.83$, $SD = 0.68$). Wealth led to more regret in the commission vignettes ($M = 3.82$, $SD = 0.65$) than in the omission vignettes ($M = 3.30$, $SD = 0.77$). There was a small effect for salience, $F(1, 49) = 4.70$, $p < .05$, $\eta^2 = .09$, but no significant effect for aspects, $F(1, 49) = 2.94$, $p > .05$, $\eta^2 = .06$. Omissions ($M = 3.56$, $SD = 0.77$) were regretted slightly more than commissions ($M = 3.42$, $SD = 0.78$).

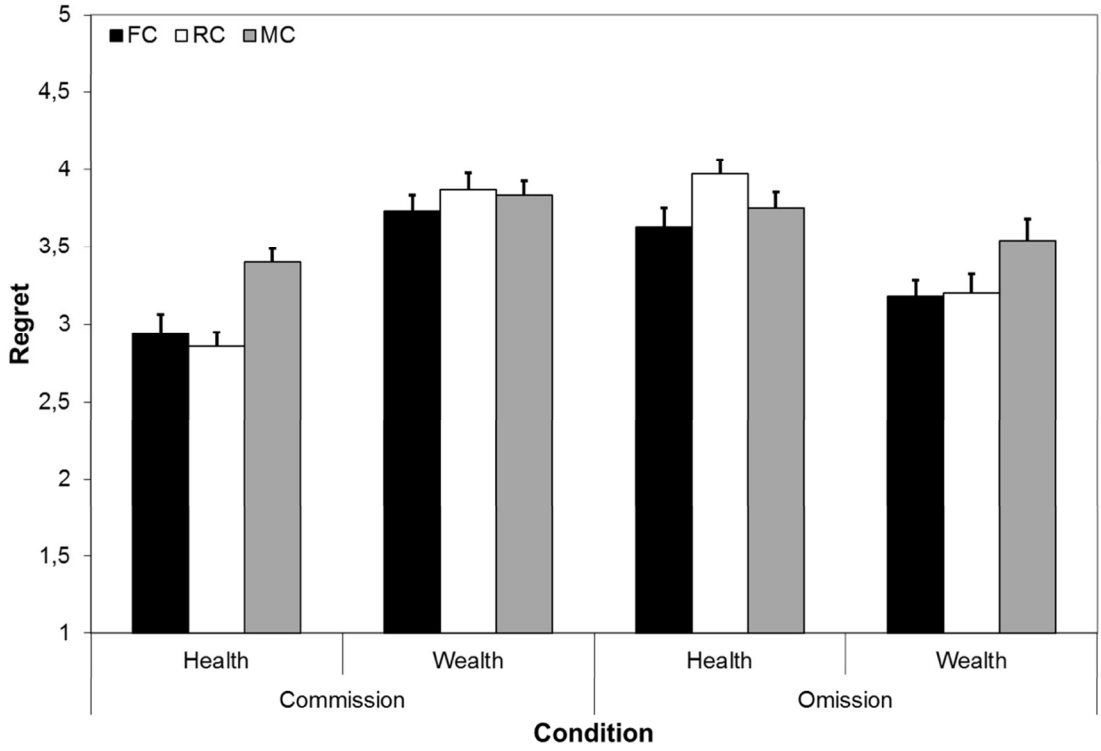

Figure 2. Means of regret of Experiment 2. Bars representing means of regret with standard error. FC = Free Choice, RC = Request Condition, MC = Must Condition.

Thought options. To analyze whether the participants also chose counterfactual thoughts if the regret was high, I correlated the thoughts with regret as a function of the factors (salience, aspects, influence). The counterfactual thought was coded as 1, attribution to bad luck was coded as 2, and acceptance was coded as 3. As illustrated in Table 1, the more regret the participants anticipated, the more likely they were to choose the counterfactual thought. The only vignette with no significant correlation was Free Choice-Wealth-Commission.

Table 1

Correlations of Selected Thoughts and Anticipated Regret

Anger/Thoughts	FC-Com.	RC-Com.	MC-Com.	FC-Om.	RC-Om.	MC-Om.
FC-Com.	-.47***	.13	-.18	.02	-.39**	-.12
RC-Com.	.05	-.52***	-.09	-.32*	.11	-.24
MC-Com.	-.21	-.05	-.47***	.11	-.21	-.10
FC-Om.	-.05	-.28	-.08	-.67***	-.03	-.34*
RC-Om.	-.30*	-.06	-.27	.12	-.58***	-.07
MC-Om.	-.11	-.24	.01	-.33*	-.25	-.45**

Note. FC = Free Choice, RC = Request Condition, MC = Must Condition, Com. = Commission, Om. = Omission, *$p < .05$, ** $p < .01$, *** $p < .001$.

Free thoughts. I oriented the coding of the freely associated thoughts on Klauer and Migulla's (1995) categories. These were *counterfactual thinking*, *future oriented thinking*, *causal thinking without adjustment*, *no causal thinking*. I added the category *attribution to others,* because social influence makes an attribution to other people involved most likely. The counterfactual thought had to consist of an antecedent and an outcome where both are incorrect. The future oriented thought identifies the antecedent and changes the outcome, but only in the future and not in the past like the counterfactual. Causal thinking without adjustment refers to the thought if the participant identified the causal antecedent but does not replace it with a new antecedent. I coded the thought as attribution to others if the participants blamed the person influencing them for the negative event. As illustrated in Figure 3, participants wrote down a counterfactual thought in most of the cases. In the must conditions, participants also blamed others for the negative outcome.

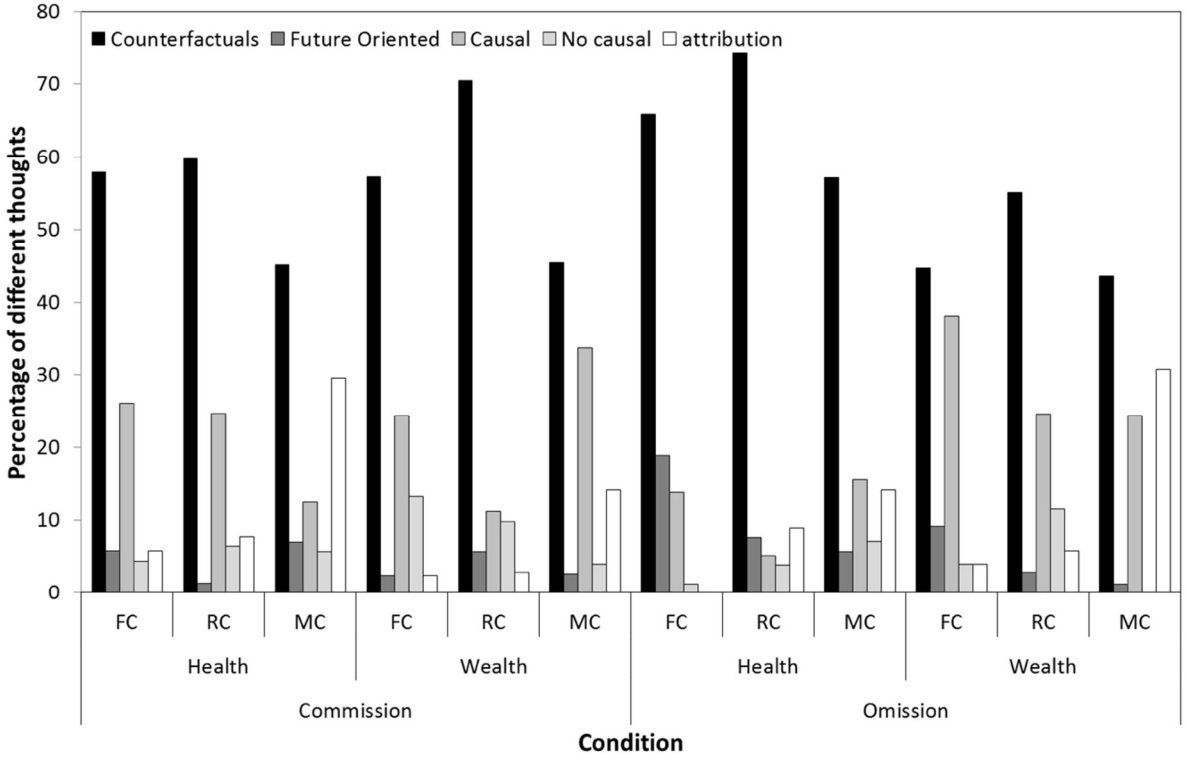

Figure 3. Freely associated thoughts. Bars representing percentage of freely associated thoughts. FC = Free Choice, RC = Request Condition, MC = Must Condition.

I recoded the thoughts as 1 if it was a counterfactual thought, as 0 if it was a different thought (i.e. future oriented or attribution), and as missing if the thought could not be classified as a thought. This recoding made it possible to infer from the mean to the probability of the generation of counterfactuals. I calculated a 2 (version) x 2 (salience) x 3 (influence) ANOVA with repeated measures on salience and influence. The only significant effect was for influence, $F(2, 46) = 9.62$, $p < .001$, $\eta^2 = .29$. Participants were most likely to generate a counterfactual thought in the request conditions ($M = 0.65$, $SD = 0.28$), and least likely in the must condition ($M = 0.47$, $SD = 0.32$). In another 2 (version) x 2 (salience) x 2 (aspects) ANOVA with repeated measures on salience and aspects, the interaction of aspects and salience was significant, $F(1, 48) = 10.52$, $p < .01$, $\eta^2 = .18$. In the health vignettes, the participants were more likely to generate a counterfactual if the vignette was about an

omission (M = 0.66, SD = 0.24) than about a commission (M = 0.56, SD = 0.24). In the wealth vignettes the reverse was true. Participants generated more counterfactuals if an action was taken (M = 0.59, SD = 0.26) than if no action was done (M = 0.50, SD = 0.25).

Discussion

Experiment 2 confirmed my hypotheses. People anticipated more regret for the protagonists in socially influenced situations compared to situations where no social influence existed. Furthermore, participants also generated more counterfactual thoughts in those situations, especially if they were requested to act or not to act. The higher their anticipated regret was, the more likely they were to select a counterfactual thought for the possible thought of the protagonist. People seem to also mentally undo situations where they did not freely make their decision to act or not to act. Even though participants generated the least counterfactuals if they had to do something (compared to the other influence conditions), they still generated counterfactuals to undo those situations.

In health situations, participants anticipated more regret if the protagonist experienced an error of omission, thus where the omission led to a negative outcome. The contrary was true for wealth situations. Participants anticipated more regret if the protagonist experienced an error of commission, thus where the commission led to a negative outcome. It seems that the different findings in former research (e.g. Kahneman & Tversky, 1982; Davis et al., 1995) can be due to the different situations people encounter. Moreover, participants did not anticipate more regret in either health or wealth situations, confirming the results of Experiment 1. Health is not in general more important than wealth.

In the first analysis, commissions and omissions did not lead to different levels of regret, whereas they led to different levels in the second analysis. Omissions led to slightly

more regret compared to omissions that turned out badly. N'gbala and Branscombe (1997) only found differences in the regret of commission and omission if they were compared directly within participants. They argued that this effect is a comparative judgment process. Even though I only found a difference in the second analysis, and that was rather small, commissions and omissions have to be compared between participants. This is also necessary to rule out that the moderation of health and wealth is also only a comparison effect. That was done in Experiment 3.

Experiment 3

Experiment 3 is a replication of Experiment 2. The goal of this study is first, to replicate the findings of Experiment 2, second, to rule out comparative judgment processes by manipulating commission versus omission between participants, and third, to make the design of the studies more valid by including more vignettes. Another difference compared to Experiment 2 is that I exchanged regret with anger. Ordóñez and Connolly (2000) suggested that the discrepancies in their findings compared to those of Zeelenberg and colleagues (1998) might be due to a different understanding of regret in Dutch compared to English. A difference in the understanding can also be possible in German, as regret stands for three distinct emotions: bedauern, bereuen, and nachtrauern. Nairz (2004) showed that in a German speaking sample *anger* refers better to counterfactual thinking than *regret*. Moreover, I excluded the task of the freely associated thoughts and the selection of thoughts. This was due to the amount of vignettes the participants had to read. Each participant read 36 brief vignettes. Again, half the vignettes consisted of health and half of wealth scenarios. Participants had to rate the anger of the protagonist. I expected to find more anger in the influenced situations, as anger was only substituted for regret. I also expected to again find the moderation of commissions and omissions through health and wealth. I did not expect to

find that either commissions or omissions lead to more anger, as I agree with N'gbala and Branscombe (1997) that some comparative judgment must take place.

Method

Participants & Design. Eighty-six participants (76 women, 10 men, M_{age} = 22.59 years, SD_{age} = 4.99) took part in this experiment. I recruited them at the Department of Psychology at the University of Heidelberg. They took part for payment or partial course credits. Experiment 2 is a 2 (salience: commission vs. omission) x 2 (aspects: health vs. wealth) x 3 (influence: free choice vs. request vs. must) design, where salience was manipulated between, and aspects and choice within participants. The experiment consisted of 12 vignettes. I manipulated the order of them to exclude order effects.

Materials & Procedure. Experiment 3 was a computer-based experiment, written in Visual Basic 2008. First, participants had to answer questions about age, gender and whether German was their mother tongue. The instruction given on the next page was as follows:

> *You will be shown different stories of different people. Please try to put yourself into these person's positions and rate their anger on a scale from 1 to 5, whereas 1 refers to less angry and 5 to very angry.*

Then participants read a vignette and had to indicate the protagonist's anger on a scale from 1 to 5. The vignettes were set in 12 scenarios, of which six were about health (ski, trek, skate, sex, vaccination, airbag), and six about wealth (stock, study, work, quiz, train, and kitchen). Each scenario included three conditions to manipulate influence, as in Experiment 2: Free Choice (FC), Request Condition (RC) and Must Condition (MC). Therefore, each participant read 36 stories. One group had 36 commissions to rate and the other group had to rate 36 omissions. After they completed all, they were debriefed, paid and thanked.

The vaccination, ski, trek, stock, train, and quiz vignettes were the same as in Experiment 2. The new skate vignette read as follows:

Benjamin meets up with a group of friends to go inline-skating. He thinks about wearing knee protection.

The sex vignette was the following:

Sven had a great date with a wonderful woman. Now they are at her place and it is becoming more intimate. Sven thinks about using a condom.

The airbag vignette read the following:

Jessica wants to go on a holiday trip to Croatia with her family by car. One day before they want to leave, her car alerts that something is wrong with the airbag. Jessica thinks about getting it checked before departure.

The study vignette was oriented on the vignette by Landman (1987) and read as follows:

Marie studies biology. A seminar has two groups on different times with different lecturers. Marie thinks about switching the course.

The work vignette was the following and was also oriented on a vignette used by Landman (1987):

Mirko works for the company United Vans. The company offers their staff to relocate to the subsidiary company American Vans. Mirko thinks about relocating.

The kitchen vignette read the following:

Carolin wants a new kitchen. She has to get a loan of 5,000€ for the new kitchen. She thinks about buying the new kitchen.

As in Experiment 1, all the vignettes carried on by saying that the protagonist either did or did not do the possible action (salience manipulation) and the reason for the decision (influence manipulation).

Results

First, I calculated the internal consistency of the vignettes. The internal consistency for the vignettes about commission was good ($\alpha = .86$). The consistency for the vignettes about the omissions were even better ($\alpha = .89$). Thus, the vignettes can be used for further analysis.

Anger. I calculated a 2 (salience: commission vs. omission) x 2 (aspects: health vs. wealth) x 3 (influence: FC vs. RC vs. MC) ANOVA with repeated measures on aspects and choice. Salience did not differ, $F(1, 84) = 1.70$, $p > .05$. Commissions in general do not lead to more anger or more counterfactual thinking than omissions or vice versa. There was a main effect for aspects, $F(1, 84) = 81.46$, $p < .001$, $\eta^2 = .49$, and for influence, $F(2, 83) = 19.06$, $p < .001$, $\eta^2 = .31$. Wealth ($M = 3.80$, $SD = 0.66$) led to more anger than health ($M = 3.34$, $SD = 0.76$). The most anger was anticipated in the request condition ($M = 3.70$, $SD = 0.72$) and the least in the free choice condition ($M = 3.35$, $SD = 0.80$). The request and the must condition did not differ significantly, $t(85) = 0.68$, $p < .05$. The interaction of salience and aspects was significant, $F(1, 84) = 13.91$, $p < .001$, $\eta^2 = .14$. Health versus wealth moderates whether a commission or an omission leads to more anger. The interaction of influence and salience was also significant, $F(2, 83) = 18.88$, $p < .001$, $\eta^2 = .31$. If

participants read the commissions, they experienced the most anger in the must condition (*M* = 3.73, *SD* = 0.54).

In the condition judging the omissions, participants experienced the most anger in the request condition (*M* = 3.82, *SD* = 0.60). The three-way interaction of salience, aspects, and influence was also significant, $F(2, 83) = 28.24$, $p < .001$, $\eta^2 = .50$. As illustrated in Figure 4, participants anticipated the most anger in a situation about wealth issues, where someone requests someone else to do something. In commissions about health and in omissions about wealth the most anger was anticipated if the protagonist had to do something. In omissions about health the anticipation of anger was highest if someone requested to do something.

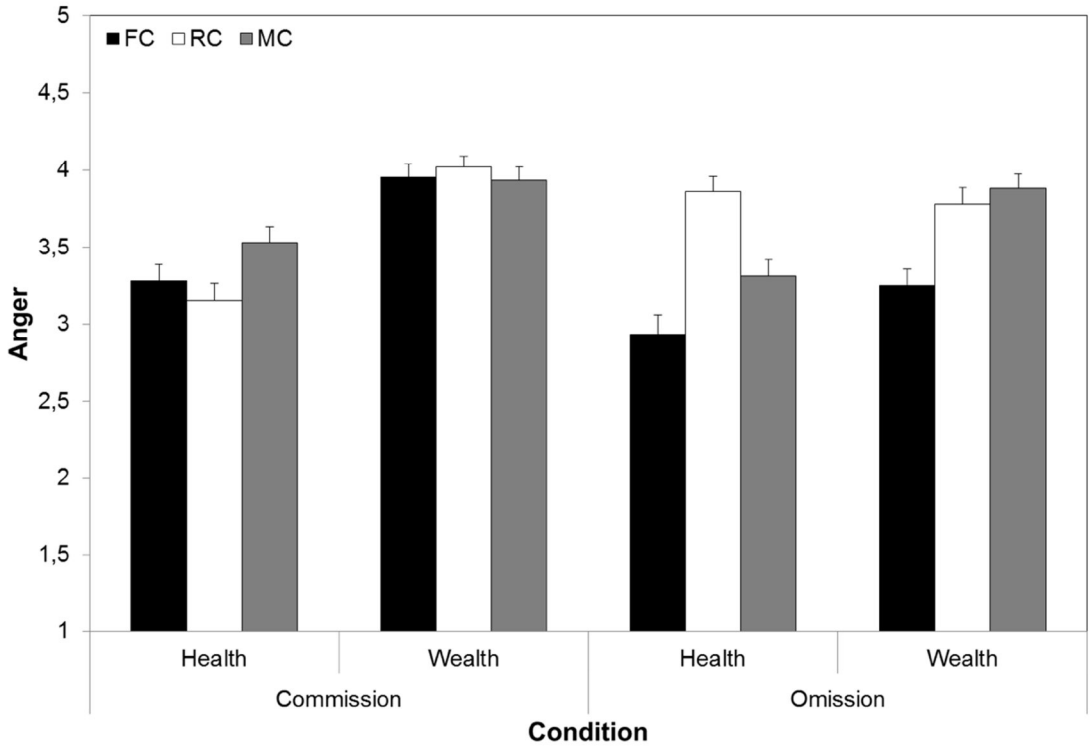

Figure 4. Means of anticipated anger in Experiment 3. Bars representing means of anger with standard error. FC = Free Choice, RC = Request Condition, MC = Must Condition.

Discussion

The results of Experiment 3 confirmed my hypotheses. People experienced more anger in socially influenced situations compared to situations where no influence took place. Especially participants rated the anger higher if the protagonist had to do something or the protagonist was asked not to act. Due to the results of Nairz (2004), participants would be more likely to generate counterfactual thoughts and mentally undo negative outcomes if they were influenced.

Health situations led to more anger if the omission turned out badly. Wealth situations led to more anger if the commissions turned out badly. When people are obliged, the most anger is experienced when they, in a health situation, have to do something or when they, in a situation concerning wealth, are not allowed to act. If they are requested, they anticipate the most anger when they are asked to act in wealth situations, or if they are asked not to act in health situations. People experienced also more anger in situations concerning wealth. This is a novel finding, as the first two experiments did not show that health or wealth would lead to more regret, anger, or would be more important than wealth.

Even though Nairz (2004) showed that in a German speaking sample anger is associated better with counterfactual thinking than regret, it should be reassessed whether the anger people anticipate can be used as measure of counterfactual generation. This is done in Experiment 4. Again, the moderation of commissions and omissions through health versus wealth can still be due to some comparative judgments. Moreover, the effect that wealth scenarios led to more anger, even though Experiment 1 and Experiment 2 showed that there is no higher importance of one or the other, indicates the urge to manipulate health versus wealth between participants. This is also done in Experiment 4.

Experiment 4

The goal of Experiment 4, which is a replication of Experiment 3, is first of all showing that the degree of anger anticipated is a good indicator for the generation of counterfactual thoughts. The second goal is showing that the moderation of health and wealth on commissions and omissions still exists if health and wealth issues cannot be compared directly, thus I manipulated health versus wealth between participants. Each participant read 18 vignettes. They either read vignettes about health or about wealth. All stories existed in a commission and an omission version. Again, I manipulated influence on three levels: Free Choice, Request Condition, and Must Condition. After participants read the vignettes and rated the protagonist's anger, they also had to select a possible thought, as in Experiment 2. Participants could choose between a counterfactual, an attribution to bad luck, and an acceptance of the circumstances. I expected to find no difference between the anticipated anger in health and wealth situations, as none is more important than the other. Moreover, I expected to find higher anger ratings in socially influenced situations compared to situations not influenced by others. I also expected to find the moderation of health and wealth on commissions and omissions, even though I manipulated health versus wealth between participants. Last but not least, I expected to find that the anticipated anger is a good indicator for the generation or selection of counterfactual thoughts.

Method

Participants & Design. Forty-five participants (28 women, 17 men, M_{age} = 23.18 years, SD_{age} = 2.82) took part in Experiment 4. I recruited them at the Department of Psychology at the University of Heidelberg. They took part for partial course credits or payment. Experiment 4 is a replication of Experiment 3 with a 2 (Salience: commission vs.

omission) x 2 (Aspects: health vs. wealth) x 3 (Influence: free choice vs. request vs. must) design, where I manipulated aspects between, and salience and choice within participants.

Materials & Procedure. Experiment 4 was a computer-based experiment. Beside the different between manipulations I also added the thought manipulation of Experiment 2, that participants choose a possible thought of the protagonist. After the participants entered their age, gender and mother tongue, they read the instruction of Experiment 3 with the following adjustment.

> *…You shall put yourself into the protagonist's position and tick a possible thought the person could have…*

Then they always read one vignette, rated the anger on a scale from 1 to 5 and ticked one out of three possible thoughts. Again, the thoughts were either a counterfactual, an attribution to bad luck, or the acceptance of the situation. The program consisted of six vignettes, where three were about health (Skate, Trek, Ski) and three were about wealth (Stock, Study, Work; aspects manipulation). The participants read either the health or the wealth vignette and each one was given as free choice, request condition, or must condition (influence manipulation). Again, for the salience manipulation all vignettes consisted of versions where the protagonist did the action (commission) or did not (omission). Therefore, every participant rated 18 stories.

Results

I calculated the internal consistency of the vignettes. The cronbach's alpha was good in the health vignettes ($\alpha = 0.87$). The internal consistency in the wealth vignettes was with 0.67 not so good. However, over all vignettes the internal consistency of 0.75 was acceptable for further analyses.

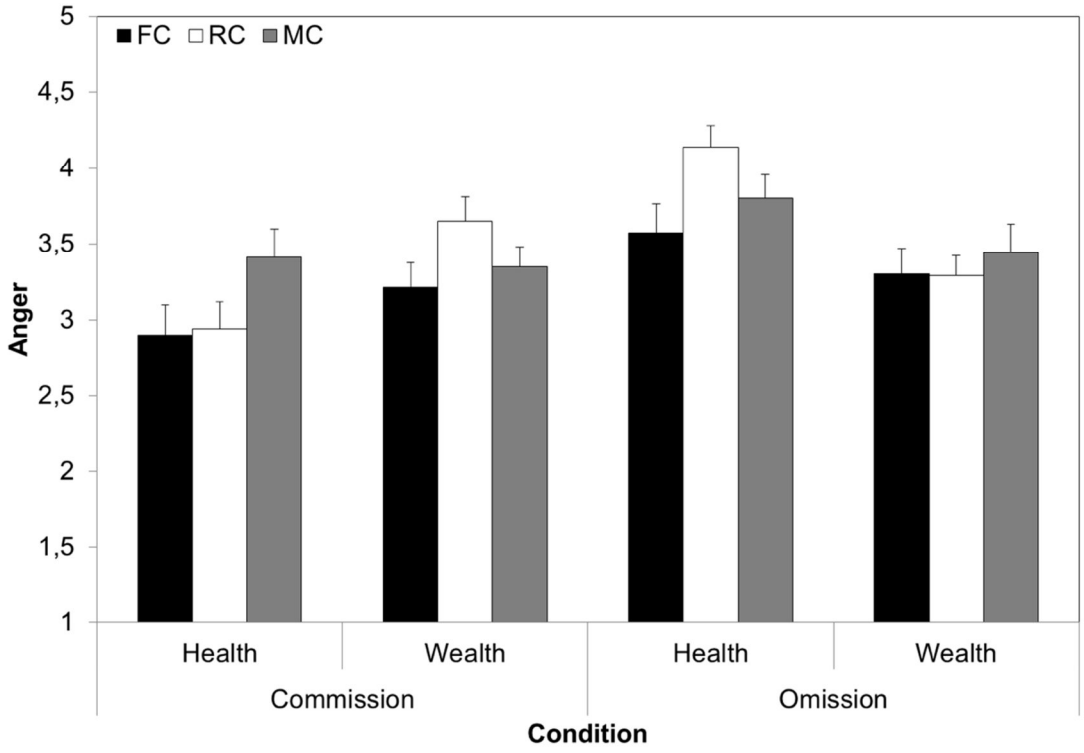

Figure 5. Means of anticpated anger in Experiment 4. Bars representing means of anger with standard error. FC = Free Choice, RC = Request Condition, MC = Must Condition.

Anger. I calculated a 2 (aspects) x 2 (salience) x 3 (influence) ANOVA with repeated measures on salience and influence. There was no significant effect for aspects, or for the interaction of influence and aspects, or influence and salience, all *F*s < 1. Influence differed significantly, $F(2, 42) = 4.69$, $p <. 05$, $\eta^2 = 18$, as well as salience, $F(1, 43) = 16.71$, $p <.001$, $\eta^2 = .28$. Participants anticipated the most anger in the request condition ($M = 3.51$, $SD = 0.85$) and the least anger in the free choice condition ($M = 3.24$, $SD = 0.89$). They also felt more anger in the omissions ($M = 3.60$, $SD = 0.84$) than in the commissions ($M = 3.24$, $SD = 0.84$). Again, the interaction of salience and aspects was significant, $F(1, 43) = 23.07$, $p < .001$, $\eta^2 = .35$. Health versus wealth moderates whether a commission or an omission leads to more anger. In the health vignettes, omissions ($M = 3.81$, $SD = 0.62$) led to more anger than commissions ($M = 3.10$, $SD = 0.80$). In the wealth vignettes, commissions ($M = 3.40$, $SD = 0.56$) led to slightly more anger than omissions ($M = 3.34$, $SD = 0.65$). The three-way

interaction of salience, aspects and influence was also significant, $F(2, 42) = 13.24$, $p < .001$, $n^2 = .39$. As illustrated in Figure 5, participants anticipated the most anger in the must condition if the vignettes were about health and commissions, or about wealth and omissions. The vignettes about wealth and commissions and health and omissions led to most anger in the request condition.

Table 2

Correlations of Chosen Thoughts and Anticipated Anger

Anger/Thoughts	FC-Com.	RC-Com.	MC-Com.	FC-Om.	RC-Om.	MC-Om.
			Health			
FC-Com.	-.52*	-.31	-.21	-.23	.06	-.11
RC-Com.	-.43*	-.43*	-.25	-.24	.05	-.05
MC-Com.	-.49*	-.65***	-.67***	-.23	.11	-.08
FC-Om.	-.08	-.24	-.19	-.58**	.02	.13
RC-Om.	.16	-.04	.19	-.13	-.24	.18
MC-Om.	-.19	-.11	.22	.12	-.01	-.49*
			Wealth			
FC-Com.	-.71***	-.25	-.27	-.32	-.20	-.28
RC-Com.	-.28	-.59**	-.26	-.23	-.20	-.46*
MC-Com.	-.71***	-.38	-.30	-.50*	-.25	-.17
FC-Om.	-.62**	-.01	.05	-.54**	-.22	-.28
RC-Om.	-.55**	-.32	.03	-.69***	-.55**	-.18
MC-Om.	-.31	-.25	-.26	-.23	-.08	-.64**

Note. FC = Free Choice, RC = Request Condition, MC = Must Condition, Com. = Commission, Om. = Omission, *$p < .05$, ** $p < .01$, *** $p < .001$.

Thoughts. As in Experiment 2, I coded the thoughts as 1 if the participants chose a counterfactual thought. I coded the attribution to bad luck as 2 and the acceptance as 3. Then I correlated the thoughts with the anticipated anger by calculating spearman correlations. As illustrated in Table 2, the thoughts correlate negatively with the anger, indicating that the more anger was anticipated the more likely the participants were to choose a counterfactual thought. The only correlations that were not significant were Must Condition-Wealth-Commission and Request Condition-Health-Omission.

Discussion

The results of Experiment 4 mostly confirm my hypotheses. As in the former experiments, participants experienced more anger in situations that were socially influenced comparing to situations where the protagonist was not influenced by others. The higher the anticipated anger was, the more likely were the participants to select a counterfactual as the most likely thought of the protagonist. However, this finding was limited to four of six conditions. In health situations, where the protagonist was asked not to do something, and in wealth situations, where the protagonist had to do something, the higher anger was not associated with higher likelihood of generating a counterfactual thought.

Again, I found the moderation of health and wealth on commissions and omissions. Commissions led to more anger in wealth situations and omissions led to more anger in health situations. Compared to Experiment 3, participants did not anticipate more anger in wealth than in health situations. This can be due to the manipulation of health and wealth between participants, as no comparison could be taking place while judging anger.

Omissions were found to lead to more anger than commissions. This can again be due to the comparative judgments taking place (N'gbala & Branscombe, 1997). People may

concentrate on the aspects that differ between the protagonist's stories and judge the anger regarding to this. As illustrated in this and the former experiments, the manipulation of the variables between or within participants play a crucial role in anticipated regret, anger, and the generation of counterfactual thoughts. The influence of others shall also be tested whether it only exists if it is compared directly, thus within participants. This is done in Experiment 5.

Experiment 5

The goal of Experiment 5 was to show that social influence is not a variable that only leads to more counterfactual thinking if compared directly, but also if no comparison takes place. Therefore, I replicated Experiment 4 but manipulated influence between participants and aspects and salience within participants. Each participant read 24 vignettes. They either read situations where the protagonist freely decided what to do (Free Choice), she was requested to do or not to do (Request Condition), or she had to do or was not allowed to do (Must Condition). Half of the vignettes were about health and half of them about wealth. Each story existed as a commission and an omission version. I expected to find more anger in socially influenced situations compared to situations which were not socially influenced. Again, I expected to find the moderation of health and wealth on commissions and omissions. More specifically, I expected that in health situations the anticipated anger would be higher if an omission turned out badly compared to a commission. I expected that in wealth situations the anticipated anger would be higher if a commission turned out badly, compared to an omission. I suspected also differences between health and wealth, and commissions and omissions that were due to the direct comparison of them. As found in the former experiments, I expected wealth situations and omissions would lead to more anger. Again, I also expected that the more anger participants anticipated, the more likely they would be to select a counterfactual thought for the protagonist.

Method

Participants & Design. In Experiment 5, forty-six participants (23 female, 23 male, M_{age} = 24.00, SD_{age} = 5.62) took part for payment. I recruited them at the canteen of the University of Heidelberg. This experiment is a replication of Experiment 4. The design was a 2 (salience: commission vs. omission) x 2 (aspects: health vs. wealth) x 3 (influence: free choice vs. request condition vs. must condition), where I manipulated influence between and salience as well as aspects within participants.

Materials & Procedure. Experiment 5 is a computer-based program. Beside the different between manipulations, I kept the thought manipulation but added all the vignettes of Experiment 3. Therefore, the program consisted of 12 vignettes, six about health (ski, trek, skate, sex, vaccination, airbag) and six about wealth (stock, study, work, quiz, train, kitchen). After the participants entered the laboratory they were handed an informed consent and were seated. The program started with the questions about gender, age and mother tongue. Then, the instruction of Experiment 4 was shown. Afterwards, participants always read one vignette and rated the anger of the protagonist on a scale from 1 to 5. Then they had to choose a possible thought that the protagonist could have in this situation. Again, the thoughts consisted of a counterfactual thought, an attribution to bad luck, and an acceptance of the situation. I manipulated salience by whether the protagonist did or did not do an action. I manipulated aspects by the content of the vignettes and influence by the influence of other people on the protagonists acting or not acting. One group only read the free choice versions of the vignettes, another group only the request conditions, and the last group read only the must conditions. Each participant read 24 vignettes.

Results

I calculated the internal consistency of the vignettes. The vignettes for the Free Choice ($\alpha = 0.69$) and Must Condition ($\alpha = 0.63$) had acceptable internal consistencies. The internal consistency of the Request Condition was good ($\alpha = 0.88$). The consistency of the vignettes is acceptable for further analyses.

Anger. I analyzed the data by calculating a 2 (salience) x 2 (aspects) x 3 (influence) ANOVA with repeated measures on salience and aspects. There were no significant effects for influence, $F(2, 42) = 2.06$, $p > .05$, or the interaction of influence and salience, $F(2, 42) = 2.17$, $p > .05$. Participants anticipated the most anger in the must condition ($M = 3.60$, $SD = 0.42$). The anger in the request condition ($M = 3.27$, $SD = 0.56$) and free choice ($M = 3.31$, $SD = 0.41$) was less. I calculated a one-factorial (all anger measures) ANOVA for the influence conditions with contrasts to see whether the must condition differs from the other influence conditions. The must condition was weighted with +1 and the other two conditions with -0.5. The must condition differs slightly from the other influence conditions, $F(1, 44) = 4.06$, $p = .05$.

In the former 2 x 2 x 3 ANOVA there was a significant effect for salience, $F(1, 23) = 8.53$, $p < .01$, $\eta^2 = .17$, and for aspects, $F(1, 43) = 18.79$, $p < .001$, $\eta^2 = .30$. Omissions ($M = 3.49$, $SD = 0.60$) led to more anger than commissions ($M = 3.27$, $SD = 0.76$). Participants anticipated more anger in the wealth vignettes ($M = 3.52$, $SD = 0.62$) than in the health vignettes ($M = 3.24$, $SD = 0.74$). The predicted interaction of aspects and salience was significant, $F(1, 43) = 36.23$, $p < .001$, $\eta^2 = .46$, as well as the three-way interaction of aspects, salience and influence, $F(2, 42) = 16.47$, $p < .001$, $\eta^2 = .43$. Health versus wealth moderates whether a commission or an omission leads to more anger. Participants anticipated

more anger in situations concerning health when the protagonist did not do anything (*M* = 3.55, *SD* = 0.56), compared to health situations where the protagonist acted (*M* = 2.94, *SD* = 0.77). In situations concerning wealth it was vice versa. Participants anticipated more anger when the protagonist acted (*M*= 3.60, *SD* = 0.60) compared to when she did not (*M* = 3.43, *SD* = 0.64). As illustrated in Figure 6, participants anticipated the most anger in the must conditions. The only exception is the health vignettes where the protagonist was requested not to do something.

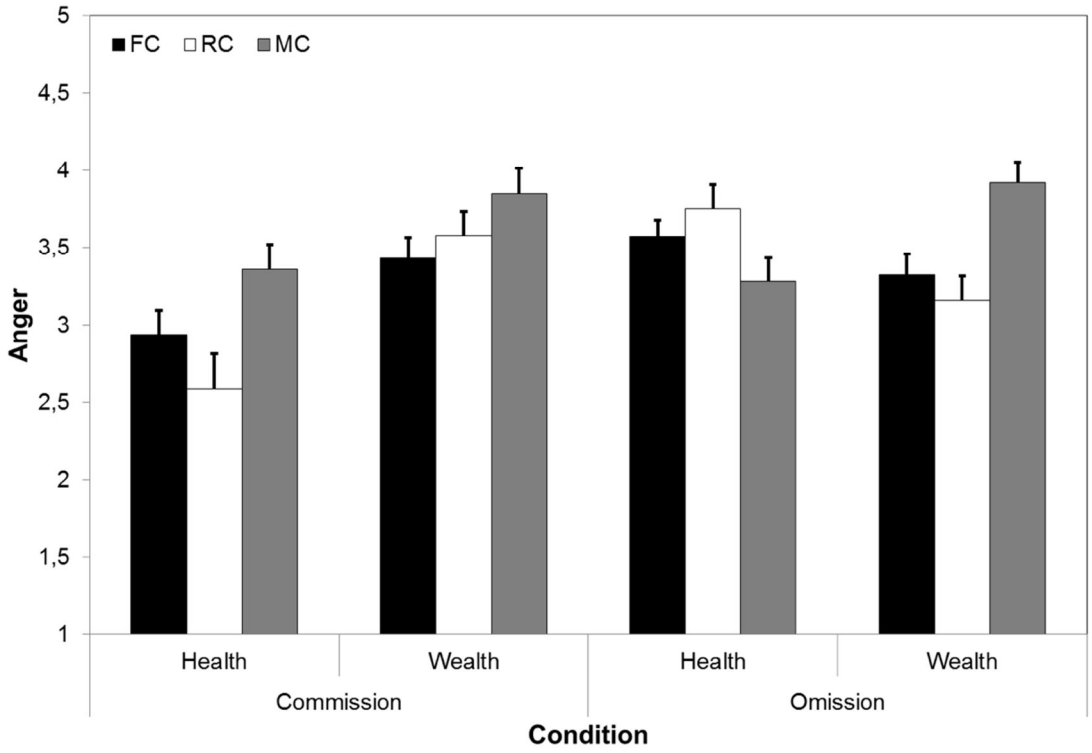

Figure 6. Means of anticpated anger in Experiment 5.Bars representing means of anger with standard error. FC = Free Choice, RC = Request Condition, MC = Must Condition.

Thoughts. Again, I coded the counterfactual thoughts as 1, the attribution to bad luck as 2, and the acceptance of the situation as 3. Then I used spearman correlations to correlate them with the anticipated anger of the different conditions. The correlations were only significant in the free choice condition. The more anger the participants anticipated, the more likely they were to choose a counterfactual thought if they had the free choice conditions. I

calculated another spearman correlation without influence. The results are displayed in Table 3. Negative correlations indicate that the more anger was anticipated, the more likely the participants were to choose a counterfactual thought.

Table 3.

Correlations of chosen thoughts and anger

Anger / Thoughts	Health-Com.	Health-Om.	Wealth-Com.	Health-Om.
Health-Commission	-.49***	-.01	-.18	-.24
Health-Omission	-.05	-.57***	-.10	.17
Wealth-Commission	-.34*	-.07	-.51***	-.31*
Wealth-Omission	-.15	-.12	-.25	-.46**

Note. Com. = Commission, Om. = Omission, *$p < .05$, ** $p < .01$, *** $p < .001$.

Discussion

The results of Experiment 5 mostly confirmed my hypotheses. Participants anticipated more anger in situations where the protagonist of the story was obliged compared to the other conditions. With influence manipulated between participants, the results were not as clear as before. The effect of influence mostly disappeared. This suggests that even the effects of influence are at least partly due to comparison effects.

This Experiment confirmed that more anticipated anger leads to higher likelihood of selecting a counterfactual as a possible thought for the protagonist. Again, anger is a good indicator for counterfactual thinking.

Again, I found differences in health and wealth situations, in particular that participants anticipated more anger in wealth situations. The same was true for commission

versus omissions. Participants anticipated more anger in situations where the protagonist omitted an action. These findings also show that individuals use aspects of the vignettes to compare them with each other. However, I also found the expected moderation of health and wealth on commissions and omissions, namely, that health leads to more anger if an action was omitted and wealth leads to more anger if the protagonist acted.

Summary of Experiments 1 to 5

The first five experiments have shown that people experience regret, anger, and generate counterfactual thoughts also in situations where they are influenced by other persons. They were even more likely to generate counterfactuals in situations that were influenced, compared to situations where no influence was experienced. These findings oppose those of researchers concerned with control, choice, or responsibility (e.g. Connolly, Ordóñez, & Coughlan, 1997; Girotto et al., 1991; Markman et al., 1993; Ordóñez and Connolly, 2000; Schwartz, 2005; Zeelenberg et al., 1998; Zeelenberg et al., 2000) and as well the common understanding of regret, as it shall involve personal choice (Zeelenberg & Pieters, 2007).

The influence of others brought the strongest effects when influence was manipulated within participants. In Experiment 5, where I manipulated it between, the effect vanished and was only true when I compared the must condition with the other two. This might be the case because the free decision or the request of others might be not that distinguishable, as people still experience autonomy. However, this can still be the case when someone is obliged (Dworkin, 1988, as cited in Ryan & Deci, 2006), but maybe people still feel less autonomy.

In general I found the interactions of health versus wealth and commissions versus omissions only if they were compared directly, thus manipulated within participants. This is

in terms with N'gbala and Branscombe (1997) who assumed that differences in the regret of commissions and omissions is only due to comparison processes. When I compared the factors within I found that omissions and wealth led to more regret, anger, and counterfactual thinking. As I found no effects when they were compared between participants, I agree with N'gbala and Branscombe (1997) and extend these findings to the construct of health and wealth. As seen in Experiment 1, health is no more important than wealth and vice versa, thus differences shall only be due to comparisons.

The dispute, whether commissions or omissions evoke a higher generation of counterfactuals and more regret (e.g. Beike & Crone, 2008; Byrne & McEleney, 2000; Feldman et al., 1999; Gilovich & Medvec, 1995; Gilovich et al., 1998, Kahneman, 1995; Leach & Plaks, 2009), might be ended as health and wealth moderated whether a commission or omission lead to more counterfactual thinking. Health led to more anger, regret, and counterfactual thinking when an action was omitted. The reverse was true for wealth situations. Commissions lead to more counterfactuals. Thus, specific content domains lead to differences in the generation of counterfactual thinking. Health and wealth form only one domain but give a sufficient answer to the long lasting dispute in counterfactual research. However, these content domains open a new field for research.

One question that remains from the former findings is what the mechanisms behind health and wealth are and especially what their impact on social influence is, namely that different norms in different content domains exist. In Part Two of this dissertation I will examine this and also exclude other possible explanations for the effects. I will also illuminate how people react to social influence and how they might change their behavior in relation to influence. Moreover, I will integrate the findings and mechanisms into a new model of counterfactual thinking.

Part Two

The second part of this dissertation discusses the possible mechanisms behind health, wealth, and their impact on influence. As seen in Part One, people generate counterfactual thoughts not only in situations where they are free to decide to do or not to do something, but also in situations where others influence them. Moreover, I also showed that health and wealth moderate whether a commission or an omission leads to more counterfactuals and three-way interactions of health versus wealth, salience, and influence. Now, alternative explanations as content specific domains shall be excluded and the mechanisms behind health and wealth shall be found. An alternative explanation for the former findings is that not health and wealth moderate whether a commission or an omission leads to more counterfactuals, but regulatory focus (Roese, Hur, & Pennington, 1999). Thus it shall be excluded that regulatory focus plays a role in the explanation of health and wealth, and especially on their influence on counterfactual thinking. Furthermore, the real mechanisms shall be explained by applying norm theory suggestions (Kahneman & Miller, 1986) to health and wealth; namely, that different norms in health and wealth situations lead to the different degrees of anger, regret and counterfactual thinking. These differing norms may also lead to different effects for the influence of others.

Regulatory Focus

The first possible limitations for the former results come from regulatory focus theory (Higgins, 1997). This theory refers to the concept that people differ in their motivation of approach and avoidance behavior. Higgins (1997) discriminates between two processing styles: promotion and prevention focus. These foci can be induced through special goals, but also people inherit a focus from childhood. The promotion focus is concerned with positive

goals, e.g. gaining, accomplishment and advancement. In contrast, the prevention focus is concerned with avoidance of negative occurrences, e.g. security, protection, and following guidelines. Promotion focused persons "yield sensitivity to the presence or absence of positive outcomes and approach as strategic means, whereas a prevention focus yields sensitivity to the absence or presence of negative outcomes and avoidance as strategic means" (Higgins, 1997, p. 1282). Moreover, promotion focus leads people to insure themselves against errors of omission, and prevention focus leads to insurance against errors of commissions.

Roese and colleagues (1999) picked upon these insurances against commissions and omissions and tried to end the dispute of commissions and omissions with a moderation of regulatory focus. They assumed that "promotion failure is associated with counterfactual additions and that prevention failure is associated with counterfactual subtractions" (p. 1110-1111). Commissions lead to subtractive counterfactual thinking, as a performed action is mentally subtracted. On the other side, omissions lead to additive counterfactual thinking, as an unperformed action is added to mentally undo the event. They demonstrated that regulatory focus moderates what leads to more counterfactual thinking. They found more additive counterfactuals in promotion situations, and more subtractive counterfactuals in prevention situations.

The six vignettes Roese and colleagues (1999) used to manipulate regulatory focus consisted of five situations concerning wealth (stock, casino, etc.) and only one situation concerning health (food allergy). One could argue that health is similar to a prevention focus in general, as health situations lead people to protect their health against losses and they are concerned with safety. One could also assume that promotion focus is similar to wealth situations, as they might be concerned with gaining a better future, accomplishing goals

related to financial liberty or success. However, as illustrated in Part One, I found opposing results to Roese and colleagues (1999), namely that health situations led to more counterfactual thinking in omissions, and wealth situations led to more counterfactual thinking in commissions. Therefore I do not assume that health situations activate prevention focus and wealth situations activate promotion focus. If it is not regulatory focus that discriminates health and wealth, something else must be the mechanisms behind these constructs.

Norms of commissions and omissions

Kahneman and Miller (1986) suggest in their norm theory that something that deviates from the norm leads to more regret and counterfactual thinking. They argue that the norm is an omission, that people are biased not to act. If an action is done, the aspect with the highest mutability is the action itself and that can easily be mutated into an omission. Evidence for that came from Kahneman and Tversky (1982) who found in their study about shares that more participants regretted the commission.

In another study (Ostheimer, 2012), I asked participants to play a hospital (health) or a company (wealth) game. In the company game the participant was a manager and in the hospital the participant was a medical doctor. They had to make a decision as to either act or do nothing; salience was manipulated within participants. I also manipulated the degree of choice of the participants by either colleagues requesting an action or inaction, or they were obliged by the head of the company or the hospital. After the first six trials where the decision always lead to positive outcomes no matter what participants did, the next six trials lead to a negative outcome. Then I asked the participants which of three given thoughts would be closest to their own. They could choose between the three of Experiments 3 to 5 (counterfactual, attribution, acceptance). Afterwards, they had to rate their regret and tick

who would be responsible for the situation. Interestingly, of the participants who played the hospital game 82% acted even though they were asked not to act. In the company game only 17% acted in the omission condition. In the commission conditions, 84% acted in the hospital game and 75% in the company game. It is not clear whether the manipulation of commission versus omission did not work as participants definitely did not do what they were supposed to do in the hospital game. Therefore, the results should be interpreted with care. However, this study could indicate that the norm of acting / not acting is different in health than in wealth situations. Different situations establish different norms. Thus I propose that the norm in health situations would be the commission, i.e. that people act even though an omission is expected. This might be the case because people can then excuse a negative outcome with that they have done all they could. In the wealth situations the influence of others is bigger and the norm can change depending on what is expected.

Experiment 6 and Experiment 7 test which mechanisms lay behind health and wealth. I propose the following hypotheses:

1. Regulatory focus does not explain the former findings, as regulatory focus leads to opposing results as health and wealth. Even if promotion and prevention focus relate to the constructs of health and wealth, they only explain the results insufficiently.

2. The mechanisms lying behind health and wealth are differences in norms. The norm for situations concerning health is that actions should be performed to secure one's health. This is the case regardless of the influence of others. The norm for situations concerning wealth is in general omissions, i.e. not doing anything. However, the influence of others play a crucial role in one's behavior concerning wealth situations, namely people comply with requests and obligations.

In Experiment 6 I tested Hypothesis 1 by manipulating the regulatory focus and measuring the participant's chronic regulatory focus. I then reviewed whether the focus predicts the anticipated anger in the different situations of health and wealth and commissions and omissions. Influence was not measured in Experiment 6.

Experiment 7 tested Hypothesis 2 by asking the participants how many people would act or not act in the different health and wealth situations and what the right behavior would be. I also manipulated influence in these situations to see how influence affects the behavior.

Experiment 6

The goal of Experiment 6 was to distinguish regulatory focus from the domain of health and wealth. I manipulated the regulatory focus by participants filling out different mazes which should either activate promotion or prevention focus (Friedman & Förster, 2001). Each participant read 12 vignettes. One half of the participants read vignettes about health situations the other half read vignettes about wealth situations. I manipulated health versus wealth between participants. Half of the vignettes were about a protagonist conducting an action and the other half about a protagonist omitting an action. I did not manipulate influence in this experiment. I also surveyed the chronic regulatory focus of the participants by using a questionnaire consisting of different measures for regulatory focus. I expected to find the moderation of health and wealth on commissions and omissions, and that the manipulation of regulatory focus would not make a difference. I expected to find an effect for salience, namely that omission would lead to more anger than commissions that turned out badly. I also expected that regulatory focus would not sufficiently explain the results of health and wealth, and that prevention focus would only partly explain health situations. Also, that promotion focus would only partly explain wealth situations.

Method

Participants & Design. Eighty participants (51 female, 29 male, M_{age} = 22.80, SD_{age} = 3.55) took part in this experiment. I recruited them at the campus of science of humanities of the University of Cologne. They participated either for payment or partial course credit. This experiment is a 2 (focus: prevention vs. promotion) x 2 (aspects: health vs. wealth) x 2 (salience: commission vs. omission) design with focus and aspects manipulated between.

Materials & Procedure. Experiment 6 consisted of a paper and pencil focus manipulation, the computer program of Experiment 4, and a set of paper and pencil questionnaires. The manipulation of the regulatory focus consisted of the mazes by Friedman and Förster (2001). In the prevention condition, participants had to solve the owl maze where a mouse has to get into the secure house before the owl can catch it. The instruction was as follows:

> *Consecutively, you will get mazes in which a mouse has to find its way to the mouse hole to escape from the owl. Please use a pen to trace the way of the mouse to the secure mouse hole.*

I primed the promotion focus with the cheese maze, where the mouse has to find its way to the cheese. The instruction read the following:

> *Consecutively, you will get mazes in which a mouse has to find the way to the cheese. Please use a pen to trace the way of the mouse to the desired cheese.*

The computer program was the same as the former, but this time I did not manipulate influence, therefore the program only consisted of the free choice conditions. I included all vignettes of the former experiments. This included six vignettes about health (ski, trek, skate, sex, vaccination, airbag) and six about wealth (stock, study, work, quiz, train, kitchen).

The questionnaire consisted of four separate questionnaires: The Regulatory Focus Questionnaire (RFQ) by Higgins et al. (2001), the Regulatory Focus Scale (RFS) by Fellner, Holler, Kirchler, and Schabmann (2007), the Promotion/Prevention Scale (LS) by Lockwood, Jordan, and Kunda (2002), and the Ten-Item Personality Inventory (TIPI) by Gosling, Rentfrow, and Swann (2003). I included all of the regulatory focus questionnaires to get a) a full picture of the participants especially on their focus and b) to exclude the possibility that a slightly different measurement of the foci would lead to different results. I set the questionnaires in the following order: RFS, Lockwood, RFQ, and TIPI. The regulatory focus questionnaires all had the same instruction once.

> *...Humans differ in their style, how they approach tasks and goals. This style is called "motivational orientation". The aim of the following questionnaire is to measure your motivational orientation. There is no good or bad style; you can do things good or badly either way. Please answer the questionnaire fully and at your best knowledge. The questionnaire consists mainly of statements where you have to decide how strongly you agree with them in matters of yourself. Do not be amazed if a few statements appear strange. This is due to the fact that the statements only make sense taken together...*

The RFS (Fellner et al., 2007) is a German-speaking questionnaire assessing regulatory focus, consisting of 10 items. These items are divided into promotion factors and prevention factors. The promotion factor includes the scales *openness to new things* (three items) and *autonomy* (two items). The prevention factor includes *orientation to the expectation of others* (two items) and *sense of obligation* (three items). A single promotion or prevention score can be calculated as well. All items were rated on a seven-point scale with 1 indicating definitely untrue to 7 indicating definitely true.

The LS (Lockwood et al., 2002) assesses the chronic promotion and prevention goals with 18 items. I used the German version of the scale (Keller, 2005). The only differences between these two are that the scale was changed to a seven-point scale, one item was deleted ("My major goal in school right now is to avoid becoming an academic failure), and academic references were substituted through professional references. The questionnaire consists of two subscales. The scale ranged from 1 (not at all true for me) to 7 (very true for me).

The RFQ (Higgins et al., 2001) assesses the promotion and prevention pride. The questionnaire consists of 11 items that can be answered to on a scale from 1(never or seldom) to 5 (very often). The Promotion scale consists of six items and the prevention scale of 5 items.

The TIPI (Gosling et al., 2003) is a brief measure of the Big-Five personality dimensions. It assesses states by asking whether the participant sees herself as i.e. "extraverted, enthusiastic" and consists of 10 items. These build five scales: extraversion, emotional stability, openness to experience, agreeableness, and conscientiousness. All items were rated on a seven-point scale ranging from strongly disagree (1) to strongly agree (7).

After the participants arrived at the laboratory and filled out the informed consent, they had to solve the mazes. In each condition, participants had to fill out three identical mazes to make the priming stronger. Then they started the computer program, read the vignettes either about health or about wealth, stated the anger and ticked a possible thought of the protagonist. As soon as they finished, they were handed the questionnaire. Then they were paid, thanked and debriefed.

Results

First I calculated the internal consistency of the vignettes. The health vignettes had acceptable consistency (α = .74) and the wealth vignettes an excellent consistency (α = .96). They can be used for further analyses.

Priming. I calculated a 2 (focus) x 2 (aspects) x 2 (salience) ANOVA with repeated measures on salience. There was no significant effect for focus nor for any interactions with focus, all *F*s < 1. The comparison of commission versus omission and the comparison of health versus wealth did not yield significant differences, all *F*s < 2. The only significant effect was the interaction of salience and aspects, $F(1, 76) = 30.94$, $p < .001$, $\eta^2 = .29$. Again, whether the situation is about health or wealth issues moderates whether a commission or an omission leads to more anger or counterfactual thinking. As illustrated in Table 4, health leads to more anger when something is not done and wealth if an action was done.

Table 4

Means and Standard Deviations of Experiment 5

		Regulatory Focus Priming			
		Prevention		Promotion	
		M	*SD*	*M*	*SD*
Commission	Health	3.29	0.63	3.23	0.50
	Wealth	3.47	0.69	3.30	0.75
Omission	Health	3.68	0.73	3.60	0.70
	Wealth	3.27	0.78	3.04	0.91

Note. Only Free Choice.

Thoughts. I calculated spearman correlations to see whether the anticipated anger is a good indicator for the generation of counterfactual thoughts. I correlated the thoughts with the anger. Again, I coded the counterfactual thought as 1, the attribution to bad luck as 2, and the acceptance of the situation as 3. Negative correlations show that the anticipated anger is a predictor for counterfactual thoughts. As illustrated in Table 5, the correlations are significant. The higher the anticipated anger, the more likely the participants were to choose a counterfactual thought for the protagonist. The correlation was only marginally significant when the protagonist acted in health situations.

Questionnaire. I calculated the internal consistencies for the four scales of the RFS: openness to new things (α = .54), autonomy (α = .15), expectation of others (α = .80), and sense of obligation (α = .59). Because of the poor alphas I did not use the four scales for further analyses and calculated the promotion (α = .54) and prevention (α = .57) scales. However, the scales still have poor cronbach's alphas and should be seen critically. I also calculated the internal consistency for the promotion (α = .53) and prevention (α = .80) scales of the RFQ. The alpha of the promotion scale is poor but no item scored especially low so I could not exclude one particular one. Therefore I excluded all from further analyses. I analyzed the internal consistency for the promotion (α = .53) and the prevention (α = .84) scales of the LS. I excluded item 17 from the promotion scale because of the poor correlation. Without item 17, the promotion scale has an acceptable internal consistency (α = .71). I calculated a t-test for paired samples to check whether the scales differ. The scales differed significantly, t (79) = 7.76, $p < .001$. Participants scored higher on the promotion scale (M = 5.00, SD = 0.70) than on the prevention scale (M = 4.07, SD = 1.14). I also calculated the internal consistency of the scales of the TIPI: extraversion (α = .52), agreeableness (α = -.07), conscientiousness (α = .58), openness to new experiences (α = .56), and emotional stability (α = .33). The scales have very poor consistencies and therefore I excluded them from further analyses.

Table 5

Correlations of selected thoughts and anticipated anger

Anger / Thoughts	Commission	Omission
	Health	
Commission	-.28*	-.18
Omission	.07	-.62***
	Wealth	
Commission	-.40**	-.56***
Omission	-.29*	-.59***

Note. * $p < .1$, ** $p < .05$, *** $p < .001$.

Next, I correlated the scores of the scales with each other. The RFQ and the RFS seem to measure a similar construct with their promotion and prevention scales, $r_{pro}(77) = .25$, $p < .05$, $r_{pre}(77) = .26$, $p < .05$. The prevention scale of the LS correlates negatively with the promotion scales of the RFQ, $r(77) = -.42$, $p < .001$, and the RFS, $r(78) = -.29$, $p < .01$. The prevention scale of the RFS correlates with the prevention, $r(78) = .44$, $p < .001$, and the promotion scales of the LS, $r(78) = .40$, $p < .001$. These correlations indicate that the LS prevention scale measures a similar construct as the RFS prevention scale, and that if participants score high in prevention on the LS, they score low in the promotion scales of the RFQ and the RFS. However, if they score high in the RFS prevention scale they also score high in the LS promotion scale. The promotion and prevention scales of the LS correlate with each other, $r(78) = .40$, $p < .001$.

I calculated several 2 (aspects) x 2 (salience) MANOVAs with repeated measures for aspects and LS prevention or LS promotion as covariates. No effects or interactions yielded

significance. In another MANOVA with the difference score of the LS (Diff) as a covariate, only the interaction of aspects and salience was significant, $F(1, 76) = 17.79$, $p < .001$, $n^2 = .19$.

Table 5.

Results of regression analyses predicting the anger anticipated in different conditions.

Predictor	*n*	β	*t*	*p* <
		Health Commission		
LSprevention	36	.440	2.86	.007
LSpromotion	36	-.167	-0.99	.329
Diff	36	-.552	-3.86	.001
		Health Omission		
LSprevention	36	.179	1.06	.296
LSpromotion	36	-.147	-0.86	.394
Diff	36	-.273	-1.66	.107
		Wealth Commission		
LSprevention	38	.558	4.04	.000
LSpromotion	38	.407	2.68	.011
Diff	38	-.337	-2.15	.039
		Wealth Omission		
LSprevention	38	.655	5.25	.001
LSpromotion	38	.433	2.88	.007
Diff	38	-.424	-2.81	.008

Note. difference value of the promotion minus the prevention scores. Negative values indicate higher prevention focus Diff describes the. Only participants with cook's d < .1

I calculated several linear regressions to see whether the regulatory focus has an influence on salience and aspects. I excluded the data of the RFQ and RFS, not only because of their poor Cronbach's alphas but also because of their weak correlations with the LS, and only analyzed the LS data. The regressions were performed between anticipated anger as the dependent variable (commission versus omission) and the score of the LS prevention, LS promotion scale, and their differential score as independent variables. I calculated those for the health and wealth vignettes. The results are displayed in Table 5. Prevention focus was a good indicator for the anticipated anger in the commissions in health as well as in wealth situations. Promotion focus only correlated with the anticipated anger in the wealth situations but not in the health situations. I excluded five participants, as their cook's distance was above 0.1. Again, I calculated the internal consistency of the prevention ($\alpha = .85$) and promotion ($\alpha = 71$) scales without item 17. They did not change.

Discussion

Experiment 6 confirmed partly my hypotheses. I found the expected moderation of health and wealth on commissions and omissions. Commissions led to more anticipated anger when they turned out badly in wealth situations. Omissions led to more anger in health situations. However, I did not find the higher anger anticipation in omissions as found in Experiments 2, 4, and 5, even though commissions and omissions could be compared directly. However, this only proves the case that commissions and omissions do not lead to different frequencies of counterfactual thinking.

The manipulation of regulatory focus by using the mazes did not lead to different results. This could be due to either the fact that manipulation did not work or that there were really no differences. However, it is more likely that the manipulation did not yield the desired focus manipulation, as the values of the chronic focus predicted some of the results.

The chronic prevention focus was a good predictor for wealth commissions and omissions and for health commissions, but not for health omissions. The same was true for the difference score of prevention and promotion focus. The chronic promotion focus was a good predictor for the anticipated anger in the wealth situations, but not in the health situations. Neither the prevention nor the promotion focus or their difference score predicted the anger in the health omission vignettes. As this is one main finding of Part One of this dissertation, my hypothesis was confirmed that regulatory focus cannot sufficiently explain the findings, namely, that omissions in health situations lead to more anger, regret, and counterfactual thinking.

Regulatory focus is as expected not the mechanism lying underneath health and wealth. Therefore, something else must be the mechanism. As noted earlier, I propose that a different norm and a different vulnerability to comply with requests and obligations is the underlying difference between health and wealth. Experiment 7 tests these hypotheses.

Experiment 7

The goal of Experiment 7 was testing Hypothesis 2, namely to detect the norms of health and wealth situations and how these norms differ when people are socially influenced. I asked half the participants to indicate how many people would do the commission and the other half how many people would omit the action. I manipulated salience between participants. I also let participants write down what they thought what the right behavior would be. Each participant read 36 vignettes. Half of the vignettes were concerned with health situations and half of them with wealth situations. All vignettes consisted of a free choice, request, and must condition. I expected that the norm for health situations would be a commission and for wealth situations an omission. I also expected that people in health situations would be more reluctant to comply with requests or obligations from others.

Contrary to that, I assumed that people in wealth situations would be more likely to comply with what was expected of them.

Method

Participants & Design. Seventy-eight participants (58 female, 20 male, M_{age} = 23.65, SD_{age} = 4.00) took part in Experiment 7. I recruited them at the campus humanity sciences of the University of Cologne. They participated either for partial course credit or payment. Experiment 8 is a 2 (aspects: health vs. wealth) x 2 (salience: commission vs. omission) x 3 (influence: free choice vs. request condition vs. must condition) design with salience manipulated between.

Materials & Procedure. Experiment 7 is a computer-based study oriented on Experiment 3. The program consisted of the 12 vignettes but without the ending of what the protagonist actually did. The commissions consisted of protagonists who thought about doing something, were requested to do something or had to do something and that in situations about health and wealth. The omissions consisted of protagonists who thought about not doing something, were requested not to do something or were not allowed to do something.

Eric wants to go the main station by tram. His girlfriend asks him to get a ticket.

Eric wants to go to the main station by tram. His girlfriend asks him NOT to get a ticket.

After participants read the vignette they were asked to indicate how many people would do or not do action (i.e. buy the ticket, or not buy the ticket). They could choose between 1 and 10 persons. They were also asked what they think the right behavior would be. When they had finished they were paid, thanked, and fully debriefed.

Results

First, I recoded the frequency of the people indicating not to do the actions in the omission condition, so that higher numbers indicate a higher frequency of people doing the action. Then, I calculated the internal consistency of the vignettes. The health ($\alpha = .77$) as well as the wealth ($\alpha = .73$) vignettes had acceptable internal consistencies and therefore can be used for further analyses.

Frequencies. I calculated a 2 (aspects) x 2 (salience) x 3 (influence) ANOVA with repeated measures on aspects and choice to analyze the frequencies of how many people would act. A strong effect for salience was obtained, $F(1, 76) = 102.43$, $p < .001$. The participants reported that more people would act in the commission versions ($M = 6.80$, $SD = 0.66$) than in the omission versions ($M = 5.00$, $SD = 0.90$) of the vignettes. There was also a strong interaction of influence and salience, $F(2, 75) = 139.43$, $p < .001$, $\eta^2 = .79$. Participants reported more people to act, the less choice they had in the commissions ($M_{FC} = 5.79$, $SD_{FC} = 0.99$, $M_{RC} = 6.57$, $SD_{RC} = 0.81$, $M_{MC} = 8.04$, $SD_{MC} = 0.68$). However, the reverse was true for the omissions; participants reported more people to act, the more control they had ($M_{FC} = 5.38$, $SD_{FC} = 0.83$, $M_{RC} = 5.32$, $SD_{RC} = 1.08$, $M_{MC} = 4.29$, $SD_{MC} = 1.20$). The main effect for salience and the interaction of influence and salience show that the manipulation of commissions and omission was successful. A significant effect for influence was obtained, $F(2, 75) = 13.86$, $p < .001$, $\eta^2 = .27$. Most people were reported to act in the must condition, i.e., if they had to act ($M = 6.17$, $SD = 2.31$), and least in the free choice, ergo if they were not influenced by others ($M = 5.59$, $SD = 1.23$). In the request condition more people were reported to act than in the free choice, but less than in the must condition ($M = 5.94$, $SD = 1.41$). There was a significant effect for aspects as well, $F(1, 76) = 24.79$, $p <$

.001, η^2 = .25. Participants reported that more people would act in the health (M = 6.22, SD = 1.56) than in the wealth (M = 5.58, SD = 1.83) vignettes. The interaction of aspects and influence was not significant, F < 2, but the interaction of aspects and salience was, $F(1, 76) = 9.56$, $p < .01$, $\eta^2 = .11$. Participants reported that in the health situations more people would act compared to not acting (M_{com} = 6.92, SD_{com} = 0.89, M_{omi}= 5.51, SD_{omi} = 1.19), and the same was true for the wealth vignettes (M_{com} = 6.68, SD_{com} = 0.72, M_{omi}= 4.48, SD_{omi} = 1.03). The three-way interaction of influence, aspects and salience was also significant, $F(2, 75) = 9.64$, $p < .001$, $\eta^2 = .20$. The means are displayed in Figure 7.

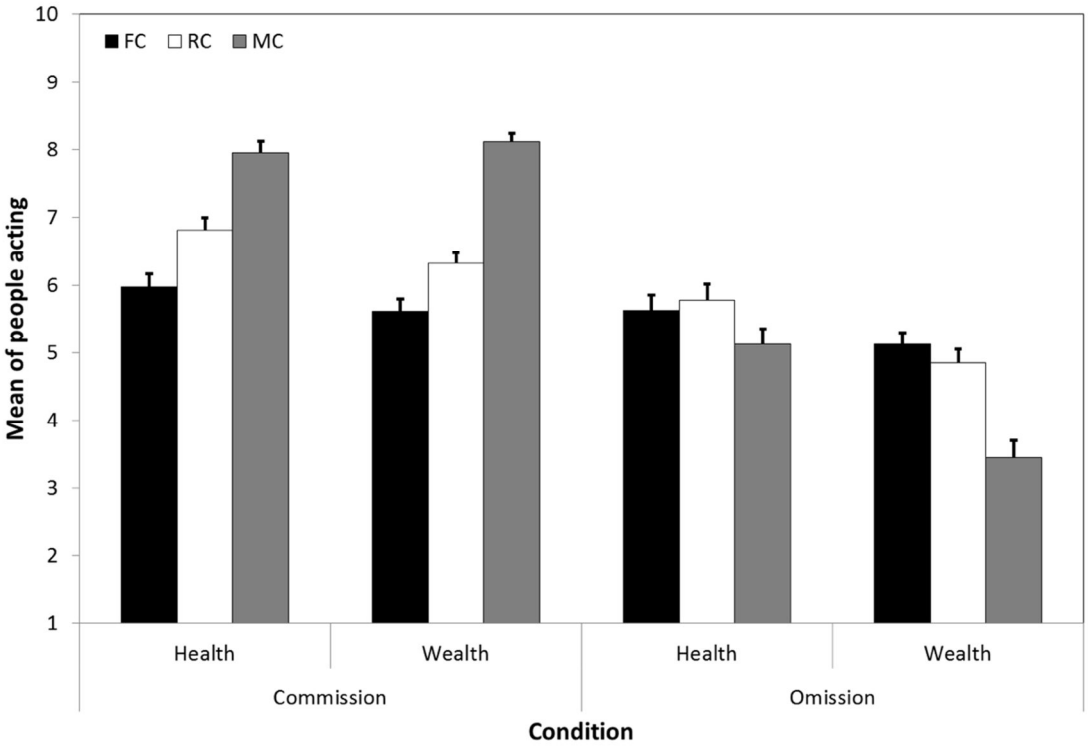

Figure 7. Means of people acting in Experiment 7. Bars representing means of people acting in the different conditions with standard error. FC = Free Choice, RC = Request Condition, MC = Must Condition.

Right actions. I classified the free answers of the participants either as an action, inaction, or as undefined. The percentages are illustrated in Figure 8. The figure clearly shows that participants see actions as the right thing to do if the vignettes are about health, regardless of salience and influence. While I recoded the free answers of the participants, I

noticed a few conspicuous answers. The most participants said that everybody should pay for public transport and that a loan should not be opened. In the health vignettes, participants seem to become reactant if they were not allowed or were requested not to do something. They either acted anyhow or they tried to boycott the organizations. In the sex vignette, participants frequently said that the protagonist should leave the house or should not sleep with the woman. In the free choice conditions many participants said that they would gather more information but still decided what to do. In the request conditions participants often claimed that they should not be influenced by others and make their own decisions.

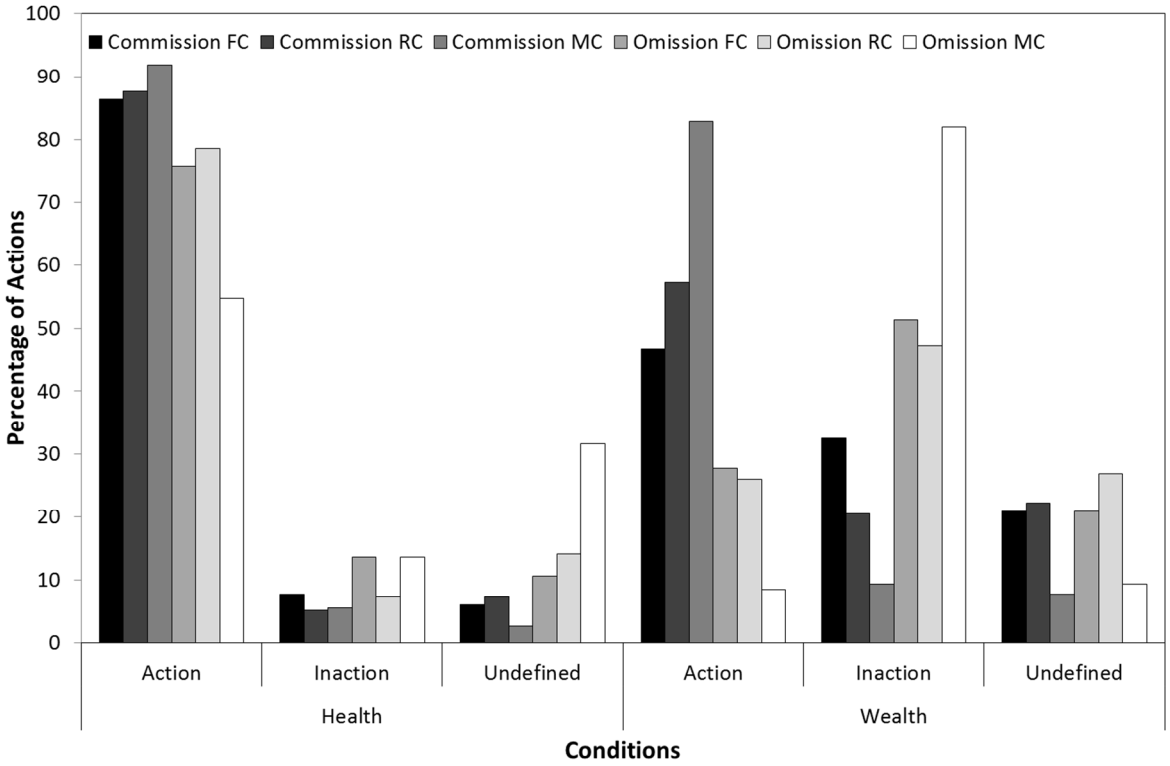

Figure 8. Bars representing the percentage participants reported the right behavior as an action, or inaction or where the answer could not be defined as action or inaction regarding to what was expected of them and whether it was about health or wealth situations.

I coded the actions as 1 and the inactions as 0, the undefined answers were coded as missing values. This coding allows drawing conclusions from the means to the probabilities of acting. I calculated a 2 (aspects) x 2 (salience) x 3 (influence) ANOVA with repeated measures on aspects and influence. The manipulation check was significant, $F(1, 76) = 164.87$, $p < .001$. Participants were more likely to act if they were in the commission

condition (M = 0.86, SD = 0.09) than in the omission condition (M = 0.56, SD = 0.10). A significant effect for influence was obtained, $F(2, 75) = 6.97$, $p < .01$. Participants were most likely to act in the request condition (M = 0.74, SD = 0.29) and least likely in the free choice (M = 0.69, SD = 0.28) and the must condition (M = 0.69, SD = 0.38). There was also a significant interaction of influence and salience, $F(2, 75) = 53.75$, $p < .001$, $\eta^2 = .59$. In the commission condition, participants reported the most actions in the must condition (M = 0.92, SD = 0.09), however they reported the least actions in the must condition if they were in the omission condition (M = 0.39, SD = 0.14). This interaction and the main effect for salience verify the manipulation.

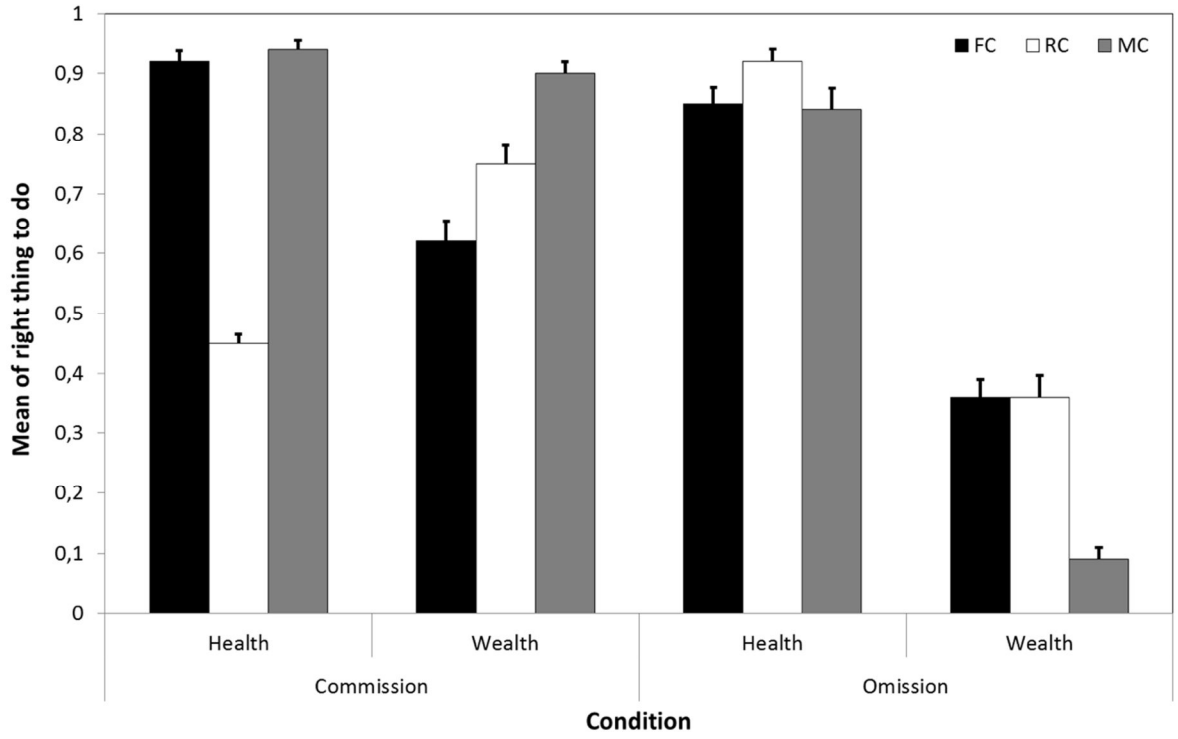

Figure 9. Bars representing the means of the right thing to do. Actions were coded as 1 and inactions as 0.

A very strong effect for aspects was obtained, $F(1, 76) = 520.12$, $p < .001$, $\eta^2 = .87$. As expected, participants acted nearly always in the health vignettes (M = 0.90, SD = 0.15) and only half the time in the wealth vignettes (M = 0.51, SD = 0.33). The interaction of

salience and aspects was also significant, $F(1, 76) = 151.52$, $p < .001$, $\eta^2 = .67$. In the wealth vignettes, participants mostly did what they were told to do ($M_{com} = 0.76$, $SD_{com} = 0.12$, $M_{omi} = 0.25$, $SD_{omi} = 0.11$), ergo they were more likely to act in the commission condition than in the omission condition. In the health vignettes however, participants mostly acted regardless of what they were told to do ($M_{com} = 0.94$, $SD_{com} = 0.09$, $M_{omi} = 0.87$, $SD_{omi} = 0.14$). The interaction of influence and aspects was not significant, $F < 1$, but the three-way interaction was, $F(2, 75) = 45.19$, $p < .001$, $\eta^2 = .55$. The means are illustrated in Figure 9.

Combining Experiment 3 and 7. I calculated the mean anger anticipated of Experiment 3 of each vignette and correlated it with the mean frequency of people acting in Experiment 7. Positive correlations indicate that the anticipated anger of the participants was high and many people would act in this situation. Negative correlations indicate that few people would act but the anger was high. I calculated the Pearson correlations for all factors (salience, aspects, and influence). The correlations were significant for the omissions in the wealth situations, $r(16) = -.48$, $p < .05$, and for the omissions in the must condition, $r(10) = -.69$, $p < .05$. These results indicate that the less people acted, the more anger was anticipated in wealth situations and when the protagonists were not allowed to do something. The degrees of freedom are quite small for the single groups of aspects x salience x influence groups ($n = 6$), thus the correlations mostly did not yield significance except the commission-request-wealth-condition, $r(4) = .89$, $p < .05$. The more people acted in the request condition, the more anger was anticipated if the situation concerned wealth.

Dicussion

The results of Experiment 7 support my hypotheses that health situations inherit a different norm compared to wealth situations and that these norms have an impact on social influence. The norm in health situations is acting, even though an omission could be regarded as better. In those health situations social influence can have a reactant impact if people are requested or obliged to omit an action. This pattern is not shown by the frequencies participants indicated of how many people would act and was only shown by the free associations of the right behavior. Maybe the right thing to do is not what most people would do.

In wealth situations the norm is highly affected through the influence of others. People seem to be more likely to comply if they are requested to do or not to do something. The same is true if they have to do something or are not allowed to act.

General discussion

One aim of this dissertation was to show that people experience anger, regret, and generate counterfactuals, not only in situations where they are free to make their own decisions but also in situations where other people influenced them. Mentally undoing bad outcomes by counterfactual thinking had only been shown so far in self-determined situations (e.g. Landman, 1987; Kahneman & Tversky, 1986; Sanna & Turley, 1996). Research on responsibility, control, or choice in regret or counterfactual thinking (e.g. Conolly, Ordóñez, & Coughlan, 1997; Girotto et al., 1991; Markman et al., 1993; Zeelenberg et al., 1998) indicated that only if a person experiences or at least perceives control she can generate

counterfactuals and experience regret. One main problem of this older research was not only that control was confounded with internality (Roese & Olson, 1995), but also that having no control was mostly manipulated as chance (e.g. Markman et al, 1993) and that it was not looked at different levels of control. Therefore, social influence needed to be distinguished from other constructs as control, responsibility and choice. In this context I referred to social influence as the influence of other persons on someone's decisions either due requests, obligations or expectations.

Former experiments (especially Experiments 1 to 5) have shown that people generate even more counterfactuals in influenced situations compared to situations where no influence was experienced. These results implicate that the construct of social influence is not comparable with the constructs of responsibility, control, and choice, and that regret is not necessarily only experienced after a personal choice. Social influence seems to have its own impact on counterfactual thinking. One possible reason for these findings is that including social influence as a possible antecedent for a consequence heightens the amount of antecedents that can be used to undo the outcome cognitively. The more alternatives someone can generate the higher is the mutability (Kahneman & Miller, 1986) of these situations.

Another aim of this dissertation was to look at counterfactual thinking in different content domains, and to find a sufficient answer for the dispute whether commissions or omissions lead to more counterfactual thinking. Many researchers (e.g. Kahneman & Tversky, 1982; Landman, 1986) argued that commissions would lead to more counterfactual thinking. Other researchers (e.g. Davis et al., 1995; Feldman et al., 1999) found that omissions led to more regret. Other efforts (e.g. Gilovich & Medvec, 1995; Gilovich et al., 1998; Kahneman, 1995) trying to end this dispute ended with insufficient explanations (e.g.

Beike & Crone, 2008; Feldman et al., 1999). I proposed that the situations, i.e., the content domain in which a negative outcome occurred moderated whether commissions or omissions lead to more counterfactuals. As the different results were mainly found in studies which were either concerned with health or with wealth situations (e.g. Davis et al., 1995; Kahneman & Tversky, 1982), I focused on these two situations. The results of Experiment 1 to 5 showed that whether a situation was about health or about wealth moderated whether a commission or an omission led to more counterfactual thinking.

Even though the results of the first five experiments might have ended the dispute whether commissions or omissions lead to more regret, I wanted to illuminate the mechanisms behind the constructs of health and wealth and different situations. Roese and colleagues (1999) argued that the different findings of commissions and omissions are due to regulatory focus. In Experiment 6 I showed that regulatory focus could not sufficiently explain the moderation of health and wealth. Thus, the mechanisms behind health and wealth must be something else.

Norm theory (Kahneman & Miller, 1986) suggests that a norm is built after a (negative) event occurred. The norm describes what should be a normal outcome of this event. I proposed that the same would be true not only for situations but also for social influence. Hence, people have different norms for different situations, i.e., health and wealth. The results of the last experiment supported my assumptions. The norm in health situations is the commission, and that was true even if they were influenced by others. However, the influence also led to reactant behavior. Therefore, the norm varies when other aspects, as for example social influence, also play a role. This was especially true for wealth situations, as the norm was strongly affected by social influence.

The results of this dissertation suggest that different norms have to be taken into account if one wants to know how and when people generate counterfactuals. Especially different situations and the influence of others can play a crucial role in determining what the norm is.

Certainly, this dissertation only included studies of anticipated regret and anger and this has some limitations. First, vignettes cannot copy real life events. However, it is ethically not possible to harm the health of the participants or to change their income in the laboratory. Surely, I could have used experiences and asked participants about negative events in their life, but this method has also some limitations. For example, people would only remember situations that are still in mind, i.e., omissions (Gilovich & Medvec, 1995).

Second, it is unclear whether participants would really always act in situations concerning health. As many prevention campaigns do not work and people for example do not exercise as much as they should, this finding could be limited. However, this still does not disprove the findings, as the norm can still be the same.

Third, I manipulated social influence only on three levels and there might be more situations of social influence in everyday life. However, I believe that I covered the most extreme ones, i.e., free choice and obligations, and also a good mediocre manipulation of social influence.

The three-step model of counterfactual thinking

Even though the former findings might be limited in some point, they shall be included in the existing theories and models of counterfactual thinking. Thus, I propose a new model. In my three-step model of counterfactual thinking I included, besides the former findings, also Roese and Olson's (1995) two-stage model of counterfactual thinking as well as aspects of Kahneman and Miller's (1986) norm theory.

The following model (see Figure 10) proposes that the generation of a counterfactual thought includes at least three steps and explains which variables have an impact on what step of generating a counterfactual. Roese and Olson (1995) included motivational as well as mutable variables in their model of counterfactual thinking. Motivational variables shall mainly influence the availability of counterfactual thought, whereas mutable variables primarily influence the semantic content of the thoughts. I agree with them and therefore the first step and the most important variables of the new model are the motivational, which in turn build the foundation for the availability. If someone is not motivated, i.e., is not personally involved or expected what happened, the consideration of an alternative outcome would be unlikely. Thus, the first step of factually generating a counterfactual is being motivated to imagine a different outcome. This motivation has also an impact on the semantic content but that is only marginal. In the end, the counterfactual shall include a new outcome that was expected. That in turn would lead to stop generating more counterfactuals.

As the vignettes of the former experiments already included the motivational variables for the availability of counterfactual thinking the thought that it could have turned out differently was most likely. All vignettes included the personal involvement of the

protagonist and a negative outcome. No one would have expected that it would turn out badly, because if someone expects the worst why should she act or not act. Therefore, the vignettes also included expectancy. The only motivational variable that was not included was closeness. However, any of the former mentioned variables can influence the cognitive availability of a different outcome, but some might be more necessary than others. I assume that involvement is the most important motivational variable, followed by expectancy, the third would be outcome valence, and the last closeness.

I see personal involvement as the prime motivational variable because if someone else for example broke a person's nose it is not necessary to mentally undo it. I guess it can happen that someone feels the urge to do it but more likely in a context of cheering the injured person up and that would be a downward counterfactual. This model mainly focuses on upward counterfactuals (comparing the existing outcome with a better one) and not necessarily on downward counterfactual thoughts. Roese and Olson (1995) already pointed out that motivational variables (except closeness) mainly have an impact on upward counterfactuals. The possible impact of downward counterfactuals will be discussed later.

The second important variable I assume is expectancy. Not only Roese and Olson (1995), but also Kahneman and Miller (1986) suggested that expectancy is the most important part of counterfactual thinking. I agree that it is very important, but less than personal involvement. Imagine Tina getting a poor grade in a course which was unexpected. She would be most likely to imagine an alternative outcome. However, if Jim, a friend of Tina, would get a poor grade, she might feel sorry for him but not necessarily mentally undo the event. Thus, I assume that expectancy is only relevant if someone is personally involved.

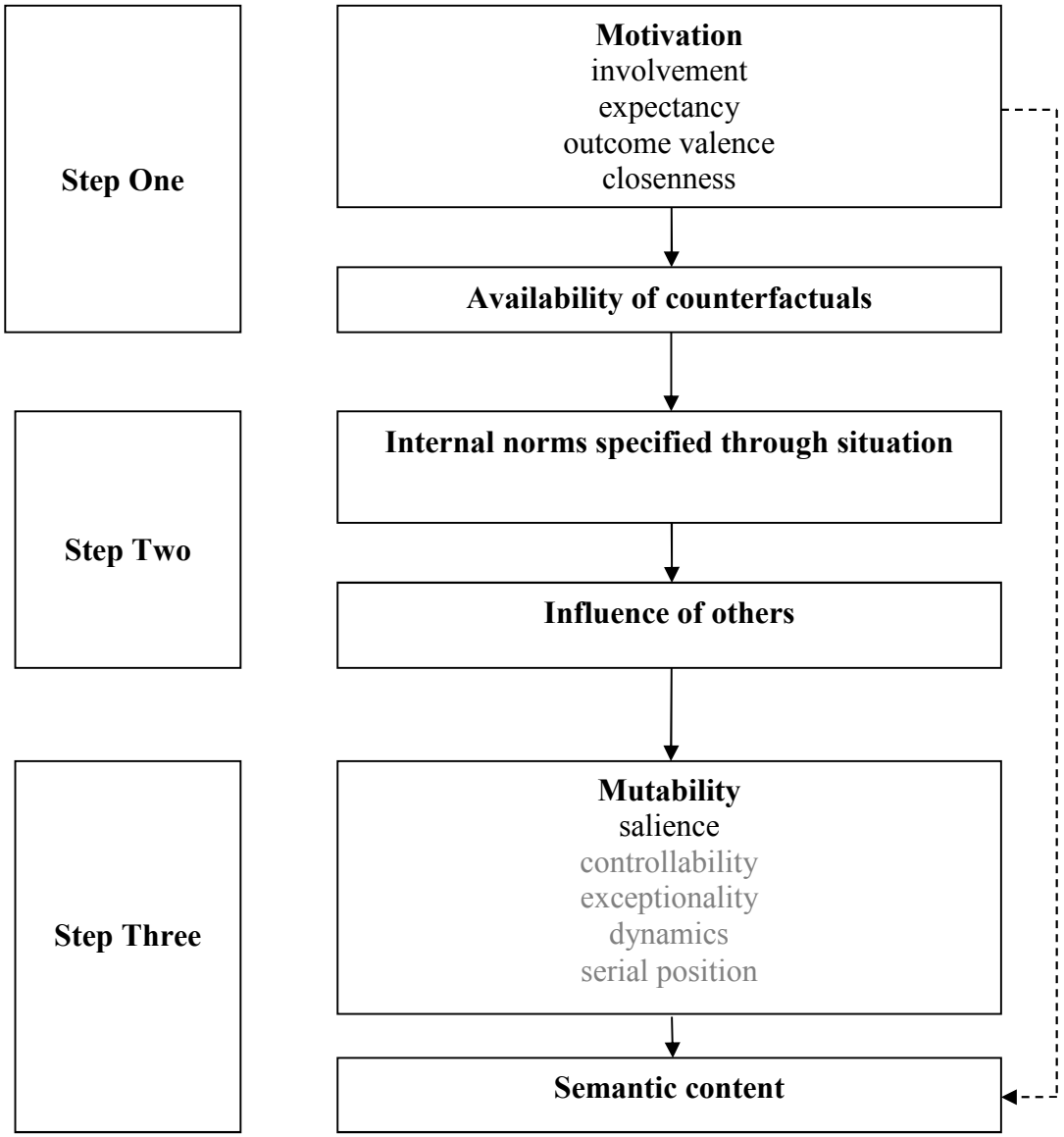

Figure 10. The three-step model of counterfactual thinking including different situational norms and social influence. Their impact is illustrated for motivational and mutability variables on the availability and semantic content of counterfactual thinking.

The third important variable is outcome valence. Even though it seems that the availability of an alternative outcome is most likely if the outcome is negative (e.g. Gavanski & Wells, 1989; Gleicher et al., 1990; Landman, 1987), there is also evidence that people generate counterfactuals after positive outcomes as well (e.g. Markman et al., 1993). One explanation from Markman and colleagues (1993) was that the unexpectedness of both outcomes led to counterfactuals. Thus, outcome valence is only an important variable if someone is already personally involved and the outcome is unexpected.

The variable with the least importance for the motivation in my opinion is closeness. However, I assume that closeness is an important variable, but rather less important than the others. It seems that it is not necessary to compare an outcome with a close alternative if the former mentioned variables are not included. Thus, if someone is personally involved and surprised by an outcome, closeness plays a crucial role. Kahneman and Tversky (1982) showed that events that are close to another outcome are more mutable and hence have a high impact on the availability of an alternative. If an alternative outcome then is very unlikely, i.e., not close, the availability of counterfactuals might be decreased. Hence, I see closeness as less important than the other motivational variables but still as a variable with a very high impact.

If an alternative outcome is considered, the next step (see Figure 10, Step Two) is analyzing the situation and creating a norm for this specific situation. I assume, as shown in Experiment 7, different situations lead to different norms (i.e. that the norm for health situations is acting in general). The internal norm is specified through the activation of different categories and experiences for a situation. Kahneman and Miller (1986) already suggested that a norm can be established either through experiences of objects and events or through references through categories. If I see health as a category this could include accidents, hospitals, a long life, protection, and safety, but not wealth. The category of wealth would activate different aspects as success, money, job, grades, education, and achievement. I propose that the specified category (e.g. health or wealth) includes a norm for appropriate behavior in this specific situation only if a similar event has occurred before. If this or similar situations have never occurred before heuristics about the general behavior will be made (Kahneman & Miller, 1986).

This norm can then be influenced through the social influence of others. For example, health situations evoke the norm of commissions. However, if the person acting is influenced by others this might lead to a different norm. As shown in Experiment 7 people can become reactant if they are asked to do something in health situations. They did not do what they were requested or even obliged to do if the situation concerned health issues. This could indicate that a norm that exists for a specific content domain might be altered under specific circumstances, i.e., social influence. Thus, people could establish a new norm. Moreover, the norm varied strongly in wealth situations. Hence, different norms exist not only regarding specific situations and their behavior, but also the behavior when people are influenced by others.

The third step includes controlling whether the norm for the behavior in the specific situation was met. As different situations have different norms, what variables have a higher mutability depends on this norm. For example in a health situation the norm of the behavior would be committing an action. If this action was omitted, than the semantic content includes the undoing of the omission by mentally doing the commission in the counterfactual. However, in a wealth situation, where the protagonist is asked not to act, the norm would be the omission. Hence, the counterfactual would include undoing the omission by adding an action.

In this dissertation I was only concerned with what impact different situations and social influence have on salience; and hence whether commissions or omissions have a higher impact on the semantic content on counterfactuals in specific situations. What impact social influence and different situational norms have on other mutability variables has still to be explored (see Figure 10, grey variables). For example, I could imagine that situations as health would even heighten the norm of routinely behavior, thus the mutability of exceptional

events would even be higher in health situations. Contrary, I see exceptions and routines as special forms of salience, as someone routinely does something or routinely does not act, the same norms could be true as for salience. These theses still have to be tested.

Implications for further research

As stated before, the mutability variables need to be tested and mainly the impact of situational norms and social influence on them. However, also other aspects could be researched and strengthen the fit of the model.

Other situations. This dissertation included only situations concerning health or wealth. Yet, other situations could lead to different norms as well, for example situations concerning love. In research on life regrets (e.g. Roese & Summerville, 2005), regrets on romance ranked number three. Thus romance seems to be an important aspect in life where many things can go wrong. Imagine that Mary missed showing a boy her love. A year later she meets him again and he is now in a relationship. They talk and he tells her that he had been was madly in love with her. This example just calls for counterfactual thinking. But what is the norm in these or similar situations: telling or not telling? Do friends or family also play a role? The Romeo and Julia effect describes an intensification of feelings to each other because the relationship is forbidden (Miller & Perlman, 2009). This could also have an impact on counterfactual thinking. It would be very interesting to examine love in regard to norms, social influence and their impact on counterfactual thinking.

In Roese and Summerville's (2005) study on life regrets, wealth aspects accounted for ca. 57 % of the regrets. In former experiments, wealth issues did not show a straight norm for the behavior, i.e., acting. It would also be interesting to split wealth into smaller content

domains, e.g. job, finance, education. This could illuminate even better what domains have which norm of behavior.

Strange people. So far I have only focused on the influence of persons who are close to one another, where someone might be aversive not to comply and where the need to be part of this group or society is very strong (Ryan, 1993, as cited in Ryan & Deci, 2006). It would be interesting to find out about how people would behave and whether they would mentally undo their decisions if they were influenced by strangers, i.e., people they met on the street, new colleagues, etc. It could be possible that they are either very compliant as they want the new colleague to like them, or that they become extremely reactant. Either way it would be interesting how new people influence the norms and what their impact on the mutability variables is.

Downward counterfactuals. Downward counterfactuals under the aspect of social influence could also be interesting. I assume that they will be most interesting in the way of comforting others. Therefore, they were not part of the model, as personal involvement does not necessarily play a role. If something bad happens to a friend someone wants to cheer him up. Downward counterfactuals, as a comparison how it could be worse, would serve such a function (e.g. Markman et al., 1993; McMullen, 1997).

Conclusion

This dissertation tried to show that people generate counterfactuals not only in situation that are of free will, but also in situation that are influenced by others. Moreover, I tried to find a new answer to the dispute why different findings occur in counterfactual and regret literature by showing that different norms exist in different content domains and that social influence also plays a role in these norms. These findings could improve the

understanding of counterfactual thinking in different situations and give an insight in the complexity of different norms. I think it is important to note that the general assumptions made before, about clearly stating that for example commissions lead to more regret, need to be revised. The new insights won in this dissertation shall be included in further research on counterfactual thinking, and regret as different norms could yield different findings than until now.

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Summary

The present dissertation deals with the impact of social influence and specific content domains or situations on counterfactual thinking. Counterfactual thoughts are thoughts that describe an alternative past and help people to learn for the future. This thesis provides two new aspects for counterfactual research. The research so far has only looked at self-determined situations but not at situations that are influenced by others. However, family and friends influence people's daily behavior. Five experiments show that people generate counterfactuals not only in situations where they are free to choose what to do, but also in situations where other people influence their behavior.

Former research also disagreed upon which variables (especially commission and omission) of a situation lead to more counterfactuals than others. This thesis gives new input for this dispute, as specific content domains are responsible for varying findings. In different situations people inherit a different norm for their behavior. For example, in health situations the norm is a commission, e.g., that people act to protect their health. A deviation from a norm leads to counterfactual thinking, e.g. the person did not act to protect her health.

The present thesis integrates the new findings into a new model of counterfactual thinking that explains different content domains and the influence of other persons on one's behavior. These aspects have a crucial impact on the generation of counterfactuals.

228 words

Keywords: counterfactual thinking, social influence, content domains, norms, health and wealth.

Appendix

Health vignettes of Experiments 1 to 5

Skate Commission

FC: Benjamin trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er überlegt, ob er Knieschoner für diesen Ausflug benutzt oder nicht. Er entscheidet sich dafür, weil er es als sicherer empfindet, mit Knieschonern zu fahren. Auf der Fahrt stürzt Benjamin, die Knieschoner brechen und er schürft sich beide Knie auf. Er muss die Fahrt abbrechen.

Welcher Gedanke könnte Benjamin gerade durch den Kopf gehen?

- Wenn ich die Knieschoner nicht genommen hätte, hätte ich besser fahren können und wäre nicht gestürzt.
- Es war Pech, dass ich gestürzt bin.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Jan trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er überlegt, ob er Knieschoner für diesen Ausflug benutzt oder nicht. Er entscheidet sich dafür, weil seine Freunde ihn gebeten haben, mit Knieschonern zu fahren. Auf der Fahrt stürzt Jan, die Knieschoner brechen und er schürft sich beide Knie auf. Er muss die Fahrt abbrechen.

Welcher Gedanke könnte Jan gerade durch den Kopf gehen?

- Wenn ich die Knieschoner nicht genommen hätte, hätte ich besser fahren können und wäre nicht gestürzt.
- Es war Pech, dass ich gestürzt bin.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Michael trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er möchte eigentlich keine Knieschoner beim Fahren tragen, jedoch schreibt der Veranstalter das Tragen von Knieschützern vor. Auf der Fahrt stürzt Michael, die Knieschoner brechen und er schürft sich beide Knie auf. Er muss die Fahrt abbrechen.

Welcher Gedanke könnte Michael gerade durch den Kopf gehen?

- Wenn ich die Knieschoner nicht genommen hätte, hätte ich besser fahren können und wäre nicht gestürzt.
- Es war Pech, dass ich gestürzt bin.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Skate Omission

FC: Robert trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er überlegt, ob er Knieschoner für diesen Ausflug benutzt oder nicht. Er entscheidet sich dagegen, weil er glaubt, dass er so gut fahren kann, dass er keine braucht. Auf der Fahrt stürzt Robert und schürft sich beide Knie auf. Er muss die Fahrt abbrechen.
Welcher Gedanke könnte Robert gerade durch den Kopf gehen?

- Wenn ich die Knieschoner genommen hätte, hätte ich mir nicht die Knie aufgeschürft.
- Es war Pech, dass ich gestürzt bin.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Thorsten trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er überlegt, ob er Knieschoner für diesen Ausflug benutzt oder nicht. Er entscheidet sich dagegen, weil seine Freunde ihn darum gebeten haben. Auf der Fahrt stürzt Thorsten und schürft sich beide Knie auf. Er muss die Fahrt abbrechen.
Welcher Gedanke könnte Thorsten gerade durch den Kopf gehen?

- Wenn ich die Knieschoner genommen hätte, hätte ich mir nicht die Knie aufgeschürft.
- Es war Pech, dass ich gestürzt bin.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: David trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er möchte eigentlich Knieschoner beim Fahren tragen, jedoch sind seine Schoner verschwunden und er kann sie somit nicht benutzen. Auf der Fahrt stürzt David und schürft sich beide Knie auf. Er muss die Fahrt abbrechen.
Welcher Gedanke könnte David gerade durch den Kopf gehen?

- Wenn ich die Knieschoner genommen hätte, hätte ich mir nicht die Knie aufgeschürft."
- Es war Pech, dass ich gestürzt bin.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Sex Commission

FC: Sven hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Sven überlegt, ob er ein Kondom verwenden soll. Er entscheidet sich dafür, weil er Safer Sex als wichtig erachtet. Das Kondom

reißt und er infiziert sich mit Gonorrhoe. Zur Behandlung muss er nun Antibiotika einnehmen.

Welcher Gedanke könnte Sven gerade durch den Kopf gehen?

- Wenn ich ein anderes Kondom benutzt hätte, hätte ich nun auch keine Gonorrhoe.
- Es war Pech, dass das Kondom gerissen ist.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Alex hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Alex überlegt, ob er ein Kondom verwenden soll. Er entscheidet sich dafür, weil sie ihn darum gebeten hat. Das Kondom reißt und er infiziert sich mit Gonorrhoe. Zur Behandlung muss er nun Antibiotika einnehmen.

Welcher Gedanke könnte Alex gerade durch den Kopf gehen?

- Wenn ich ein anderes Kondom benutzt hätte, hätte ich nun auch keine Gonorrhoe.
- Es war Pech, dass das Kondom gerissen ist.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Lukas hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Lukas mag eigentlich kein Kondom benutzen, muss es aber trotzdem, da die Auserwählte sonst nicht mit ihm schläft. Das Kondom reißt und er infiziert sich mit Gonorrhoe. Zur Behandlung muss er nun Antibiotika einnehmen.

Welcher Gedanke könnte Lukas gerade durch den Kopf gehen?

- Wenn ich ein anderes Kondom benutzt hätte, hätte ich nun auch keine Gonorrhoe.
- Es war Pech, dass das Kondom gerissen ist.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Sex Omission

FC: Kevin hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Kevin überlegt, ob er ein Kondom verwenden soll. Er entscheidet sich dagegen, weil er Safer Sex als unsinnig erachtet. Er infiziert sich mit Gonorrhoe und zur Behandlung muss er nun Antibiotika einnehmen.

Welcher Gedanke könnte Kevin gerade durch den Kopf gehen?

- Wenn ich ein Kondom benutzt hätte, hätte ich nun auch keine Gonorrhoe.
- Es war Pech, dass ich Gonorrhoe bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Patrick hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Patrick überlegt, ob er ein Kondom verwenden soll. Er entscheidet sich dagegen, weil er von der Frau darum gebeten wird, da sie es als störend empfindet. Er infiziert sich mit Gonorrhoe und zur Behandlung muss er nun Antibiotika einnehmen.

Welcher Gedanke könnte Patrick gerade durch den Kopf gehen?

- Wenn ich ein Kondom benutzt hätte, hätte ich nun auch keine Gonorrhoe.
- Es war Pech, dass ich Gonorrhoe bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Felix hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Felix würde gerne ein Kondom bei der neuen Bekanntschaft benutzen, darf es aber nicht, da er eine Latexallergie hat. Er infiziert sich mit Gonorrhoe und zur Behandlung muss er nun Antibiotika einnehmen.

Welcher Gedanke könnte Felix gerade durch den Kopf gehen?

- Wenn ich ein Kondom benutzt hätte, hätte ich nun auch keine Gonorrhoe.
- Es war Pech, dass ich Gonorrhoe bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Trek Commission

FC: Andrea beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie überlegt, ob sie Medikamente zur Verhinderung akuter Höhenkrankheit nehmen soll. Andrea entscheidet sich dafür, weil sie Angst vor der Höhenkrankheit hat. Das Medikament verursacht bei ihr starke Nebenwirkungen. Sie muss die Tour abbrechen.

Welcher Gedanke könnte Andrea gerade durch den Kopf gehen?

- Wenn ich die Tabletten nicht genommen hätte, hätte ich auch keine Nebenwirkungen bekommen.
- Es war Pech, dass ich die Nebenwirkungen bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Nadine beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie überlegt, ob sie Medikamente zur Verhinderung akuter Höhenkrankheit nehmen soll. Nadine entscheidet sich dafür, weil sie von mitreisenden Freunden darum gebeten wurde. Das Medikament verursacht bei ihr starke Nebenwirkungen. Sie muss die Tour abbrechen.

Welcher Gedanke könnte Nadine gerade durch den Kopf gehen?

- Wenn ich die Tabletten nicht genommen hätte, hätte ich auch keine Nebenwirkungen bekommen.
- Es war Pech, dass ich die Nebenwirkungen bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Heike beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie will eigentlich keine Medikamente gegen Höhenkrankheit nehmen, muss es aber, da die Reiseveranstalter das vorschreiben. Das Medikament verursacht bei ihr starke Nebenwirkungen. Sie muss die Tour abbrechen.
Welcher Gedanke könnte Heike gerade durch den Kopf gehen?

- Wenn ich die Tabletten nicht genommen hätte, hätte ich auch keine Nebenwirkungen bekommen.
- Es war Pech, dass ich die Nebenwirkungen bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Trek Omission

FC: Martina beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie überlegt, ob sie Medikamente zur Verhinderung akuter Höhenkrankheit nehmen soll. Martina entscheidet sich dagegen, weil sie glaubt, dass sie keine Höhenkrankheit bekommen wird. Sie bekommt akute Höhenkrankheit und muss die Tour abbrechen.
Welcher Gedanke könnte Martina gerade durch den Kopf gehen?

- Wenn ich die Tabletten genommen hätte, hätte ich auch keine Höhenkrankheit bekommen.
- Es war Pech, dass ich die Höhenkrankheit bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Lena beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie überlegt, ob sie Medikamente zur Verhinderung akuter Höhenkrankheit nehmen soll. Lena entscheidet sich dagegen, weil ihre Mitreisenden sie davon überzeugen, dass das unnötig sei. Sie bekommt akute Höhenkrankheit und muss die Tour abbrechen.
Welcher Gedanke könnte Lena gerade durch den Kopf gehen?

- Wenn ich die Tabletten genommen hätte, hätte ich auch keine Höhenkrankheit bekommen.
- Es war Pech, dass ich die Höhenkrankheit bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Birgit beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie würde gerne Medikamente zur Verhinderung akuter Höhenkrankheit nehmen, jedoch kann sie es nicht, da keine Medikamente mehr vorhanden sind. Sie bekommt akute Höhenkrankheit und muss die Tour abbrechen.

Welcher Gedanke könnte Birgit gerade durch den Kopf gehen?

- Wenn ich die Tabletten genommen hätte, hätte ich auch keine Höhenkrankheit bekommen.
- Es war Pech, dass ich die Höhenkrankheit bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Ski Commission

FC: Dennis fährt nach Österreich Skifahren. Nach den Vorfällen der vergangenen Jahre auf den Pisten, überlegt er sich, ob er sich einen Skihelm kaufen soll. Er entscheidet sich dafür, weil er es als sicherer empfindet. Am nächsten Tag auf der Piste verschlagen sich seine Skier und er stürzt auf den Hinterkopf. Er muss trotz Helmes mit einer Gehirnerschütterung ins Krankenhaus.

Welcher Gedanke könnte Dennis gerade durch den Kopf gehen?

- Wenn ich einen besseren Helm genommen hätte, hätte ich auch keine Gehirnerschütterung bekommen.
- Es war Pech, dass ich die Gehirnerschütterung bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Rene fährt nach Österreich Skifahren. Nach den Vorfällen der vergangenen Jahre auf den Pisten, überlegt er sich, ob er sich einen Skihelm kaufen soll. Er entscheidet sich dafür, weil seine Familie ihn darum gebeten hat, da sie es als sicherer empfindet. Am nächsten Tag auf der Piste verschlagen sich seine Skier und er stürzt auf den Hinterkopf. Er muss trotz Helmes mit einer Gehirnerschütterung ins Krankenhaus.

Welcher Gedanke könnte Rene gerade durch den Kopf gehen?

- Wenn ich einen besseren Helm genommen hätte, hätte ich auch keine Gehirnerschütterung bekommen."
- Es war Pech, dass ich die Gehirnerschütterung bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Tom fährt nach Österreich Skifahren. Nach den Vorfällen der vergangenen Jahre auf den Pisten, schreiben die Pistenregeln Helme vor, auch wenn Tom sich keinen kaufen wollte, muss er es nun doch. Am nächsten Tag auf der Piste verschlagen sich seine

Skier und er stürzt auf den Hinterkopf. Er muss trotz Helmes mit einer Gehirnerschütterung ins Krankenhaus.

Welcher Gedanke könnte Tom gerade durch den Kopf gehen?

- Wenn ich einen besseren Helm genommen hätte, hätte ich auch keine Gehirnerschütterung bekommen.
- Es war Pech, dass ich die Gehirnerschütterung bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Ski Omission

FC: Marko fährt nach Österreich Skifahren. Nach den Vorfällen der vergangenen Jahre auf den Pisten, überlegt er, ob er sich einen Skihelm kaufen soll. Er entscheidet sich dagegen, weil er es nicht als notwendig empfindet. Am nächsten Tag auf der Piste verschlagen sich seine Skier und er stürzt auf den Hinterkopf. Er muss mit einer Gehirnerschütterung ins Krankenhaus.

Welcher Gedanke könnte Marko gerade durch den Kopf gehen?

- Wenn ich einen Helm genommen hätte, hätte ich auch keine Gehirnerschütterung bekommen.
- Es war Pech, dass ich die Gehirnerschütterung bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Jonas fährt nach Österreich Skifahren. Nach den Vorfällen der vergangenen Jahre auf den Pisten, überlegt er, ob er sich einen Skihelm kaufen soll. Er entscheidet sich dagegen, weil seine Freunde darum gebeten haben, da sie den Helm als uncool empfinden. Am nächsten Tag auf der Piste verschlagen sich seine Skier und er stürzt auf den Hinterkopf. Er muss mit einer Gehirnerschütterung ins Krankenhaus.

Welcher Gedanke könnte Jonas gerade durch den Kopf gehen?

- Wenn ich einen Helm genommen hätte, hätte ich auch keine Gehirnerschütterung bekommen.
- Es war Pech, dass ich die Gehirnerschütterung bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Sebastian fährt nach Österreich Skifahren. Nach den Vorfällen der vergangenen Jahre auf den Pisten, möchte sich Sebastian einen Skihelm kaufen, kann es aber nicht, weil alle Helme ausverkauft sind. Am nächsten Tag auf der Piste verschlagen sich seine Skier und er stürzt auf den Hinterkopf. Er muss mit einer Gehirnerschütterung ins Krankenhaus.

Welcher Gedanke könnte Sebastian gerade durch den Kopf gehen?

- Wenn ich einen Helm genommen hätte, hätte ich auch keine Gehirnerschütterung bekommen.
- Es war Pech, dass ich die Gehirnerschütterung bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Vaccination Commission

FC: Daniela ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Daniela überlegt, ob sie sich gegen Grippe impfen lassen soll. Sie entscheidet sich dafür, weil sie die Risiken der Impfung als niedrig einschätzt. Sie wird aufgrund der Impfung krank und muss für 2 Tage ins Krankenhaus.

Welcher Gedanke könnte Daniela gerade durch den Kopf gehen?

- Wenn ich mich nicht geimpft hätte, hätte ich nun auch nicht ins Krankenhaus gemusst.
- Es war Pech, dass ich die Grippe bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Kerstin ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Kerstin überlegt, ob sie sich gegen Grippe impfen lassen soll. Sie entscheidet sich dafür, weil sie von ihrem Mann darum gebeten wird. Sie wird aufgrund der Impfung krank und muss für 2 Tage ins Krankenhaus.

Welcher Gedanke könnte Kerstin gerade durch den Kopf gehen?

- Wenn ich mich nicht geimpft hätte, hätte ich nun auch nicht ins Krankenhaus gemusst.
- Es war Pech, dass ich die Grippe bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Julia ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Julia will sich nicht gegen Grippe impfen lassen, muss es jedoch, weil ihre Arbeitsstelle es vorschreibt. Sie wird aufgrund der Impfung krank und muss für 2 Tage ins Krankenhaus.

Welcher Gedanke könnte Julia gerade durch den Kopf gehen?

- Wenn ich mich nicht geimpft hätte, hätte ich nun auch nicht ins Krankenhaus gemusst.
- Es war Pech, dass ich die Grippe bekommen habe.

- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Vaccination Omission

FC: Tanja ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Tanja überlegt, ob sie sich gegen Grippe impfen lassen soll. Sie entscheidet sich dagegen, weil sie die Risiken der Impfung als zu hoch einschätzt. Sie bekommt die Grippe und muss für 2 Tage ins Krankenhaus.
Welcher Gedanke könnte Tanja gerade durch den Kopf gehen?

- Wenn ich mich geimpft hätte, hätte ich nun auch nicht ins Krankenhaus gemusst.
- Es war Pech, dass ich die Grippe bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Sarah ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Sarah überlegt, ob sie sich gegen Grippe impfen lassen soll. Sie entscheidet sich dagegen, weil ihre Familie darum gebeten hat, da sie die Risiken als zu hoch einschätzen. Sie bekommt die Grippe und muss für 2 Tage ins Krankenhaus.
Welcher Gedanke könnte Sarah gerade durch den Kopf gehen?

- Wenn ich mich geimpft hätte, hätte ich nun auch nicht ins Krankenhaus gemusst.
- Es war Pech, dass ich die Grippe bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Ulrike ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Ulrike möchte sich gegen Grippe impfen lassen soll, kann es aber nicht, weil der Impfstoff ausgegangen ist. Sie bekommt die Grippe und muss für 2 Tage ins Krankenhaus.
Welcher Gedanke könnte Ulrike gerade durch den Kopf gehen?

- Wenn ich mich geimpft hätte, hätte ich nun auch nicht ins Krankenhaus gemusst.
- Es war Pech, dass ich die Grippe bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Airbag Commission

FC: Jessica möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Jessica überlegt, ob sie den Fehler noch überprüfen lassen soll. Sie entscheidet sich dafür, weil sie den Fehler als ein Risiko einschätzt. Auf dem Weg in den Urlaub, fährt sie einem anderen PKW hinten drauf. Der Airbag öffnet sich nicht und sie bricht sich am Lenkrad die Nase.

Welcher Gedanke könnte Jessica gerade durch den Kopf gehen?

- Wenn ich das Auto komplett durchecken hätte lassen, hätte ich nun auch keine gebrochene Nase.
- Es war Pech, dass der Airbag nicht aufging habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Manuela möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Manuela überlegt, ob sie den Fehler noch überprüfen lassen soll. Sie entscheidet sich dafür, weil sie von ihrem Mann darum gebeten wird. Auf dem Weg in den Urlaub, fährt sie einem anderen PKW hinten drauf. Der Airbag öffnet sich nicht und sie bricht sich am Lenkrad die Nase.
Welcher Gedanke könnte Manuela gerade durch den Kopf gehen?

- Wenn ich das Auto komplett durchecken hätte lassen, hätte ich nun auch keine gebrochene Nase.
- Es war Pech, dass der Airbag nicht aufging habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Nicole möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Nicole hat eigentlich keine Lust noch in die Werkstatt zu fahren, muss es jedoch, weil der TÜV es vorschreibt. Auf dem Weg in den Urlaub, fährt sie einem anderen PKW hinten drauf. Der Airbag öffnet sich nicht und sie bricht sich am Lenkrad die Nase.
Welcher Gedanke könnte Nicole gerade durch den Kopf gehen?

- Wenn ich das Auto komplett durchecken hätte lassen, hätte ich nun auch keine gebrochene Nase.
- Es war Pech, dass der Airbag nicht aufging habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Airbag Omission

FC: Silke möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Silke überlegt, ob sie den Fehler noch überprüfen lassen soll. Sie entscheidet sich dagegen, weil sie den Fehler als harmlos einschätzt. Auf dem Weg in den Urlaub, fährt sie einem anderen PKW hinten drauf. Der Airbag öffnet sich nicht und sie bricht sich am Lenkrad die Nase.
Welcher Gedanke könnte Silke gerade durch den Kopf gehen?

- Wenn ich den Fehler hätte beheben lassen, hätte ich nun auch keine gebrochene Nase.
- Es war Pech, dass der Airbag nicht aufging habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Kathrin möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Kathrin überlegt, ob sie den Fehler noch überprüfen lassen soll. Sie entscheidet sich dagegen, weil die Familie darum bittet, da sie endlich losfahren wollen. Auf dem Weg in den Urlaub, fährt sie einem anderen PKW hinten drauf. Der Airbag öffnet sich nicht und sie bricht sich am Lenkrad die Nase.

Welcher Gedanke könnte Kathrin gerade durch den Kopf gehen?

- Wenn ich den Fehler hätte beheben lassen, hätte ich nun auch keine gebrochene Nase.
- Es war Pech, dass der Airbag nicht aufging habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Nicole möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Silke möchte den Fehler noch überprüfen lassen, kann es aber nicht mehr, weil keine Werkstatt mehr geöffnet ist. Auf dem Weg in den Urlaub, fährt sie einem anderen PKW hinten drauf. Der Airbag öffnet sich nicht und sie bricht sich am Lenkrad die Nase.

Welcher Gedanke könnte Nicole gerade durch den Kopf gehen?

- Wenn ich den Fehler hätte beheben lassen, hätte ich nun auch keine gebrochene Nase.
- Es war Pech, dass der Airbag nicht aufging habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Wealth Vignettes of Experiments 1 to 5

Stock Commission

FC: Michael besitzt Aktien der Firma X. Er überlegt, jene zu verkaufen, um sich Aktien der Firma Y zu kaufen. Er entscheidet sich dafür, weil seine eigenen Analysen bessere Rendite der Aktien der Firma Y vorhersagen. Eines Tages erfährt Michael, dass die Aktien der Firma X gestiegen sind und er nun um 15.000 Euro reicher wäre.

Welcher Gedanke könnte Michael gerade durch den Kopf gehen?

- Wenn ich Aktien der Firma X gekauft hätte, hätte ich nun 15.000 Euro mehr.

- Es war Pech, dass ich das Geld nicht bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Johannes besitzt Aktien der Firma X. Er überlegt, jene zu verkaufen, um sich Aktien der Firma Y zu kaufen. Er entscheidet sich dafür, weil seine Familie ihn gebeten hat sie zu verkaufen. Eines Tages erfährt Johannes, dass die Aktien der Firma X gestiegen sind und er nun um 15.000 Euro reicher wäre.

Welcher Gedanke könnte Johannes gerade durch den Kopf gehen?

- Wenn ich Aktien der Firma X gekauft hätte, hätte ich nun 15.000 Euro mehr.
- Es war Pech, dass ich das Geld nicht bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Christian besitzt Aktien der Firma X. Er will die Aktien eigentlich noch behalten, aber muss sie aufgrund ökonomischer Ereignisse verkaufen. Eines Tages erfährt Christian, dass die Aktien der Firma X gestiegen sind und er nun um 15.000 Euro reicher wäre.

Welcher Gedanke könnte Christian gerade durch den Kopf gehen?

- Wenn ich Aktien der Firma X gekauft hätte, hätte ich nun 15.000 Euro mehr.
- Es war Pech, dass ich das Geld nicht bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Stock Omission

FC: Philipp besitzt Aktien der Firma X. Er überlegt jene zu verkaufen um sich Aktien der Firma Y zu kaufen. Er entscheidet sich dagegen, weil seine eigenen Analysen bessere Rendite für die Aktien der Firma X vorhersagen. Eines Tages erfährt Philipp, dass die Aktien Firma Y gestiegen sind und er nun um 15.000 Euro reicher wäre.

Welcher Gedanke könnte Philipp gerade durch den Kopf gehen?

- Wenn ich Aktien der Firma Y gekauft hätte, hätte ich nun 15.000 Euro mehr.
- Es war Pech, dass ich das Geld nicht bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Dominik besitzt Aktien der Firma X. Er überlegt jene zu verkaufen um sich Aktien der Firma Y zu kaufen. Er entscheidet sich dagegen, weil seine Familie ihn bittet die Aktien nicht zu verkaufen, da sie sie als eine gute Anlage ansehen. Eines Tages erfährt Dominik, dass die Aktien Firma Y gestiegen sind und er nun um 15.000 Euro reicher wäre.

Welcher Gedanke könnte Dominik gerade durch den Kopf gehen?

- Wenn ich Aktien der Firma Y gekauft hätte, hätte ich nun 15.000 Euro mehr.

- Es war Pech, dass ich das Geld nicht bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Marcel besitzt Aktien der Firma X. Er möchte sie verkaufen um sich Aktien der Firma Y zu kaufen, kann es aber nicht, weil er der Firmenpolitik zufolge, die Aktien nicht verkaufen darf. Eines Tages erfährt Marcel, dass die Aktien Firma Y gestiegen sind und er nun um 15.000 Euro reicher wäre.

Welcher Gedanke könnte Marcel gerade durch den Kopf gehen?

- Wenn ich Aktien der Firma Y gekauft hätte, hätte ich nun 15.000 Euro mehr.
- Es war Pech, dass ich das Geld nicht bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Study Commission

FC: Marie studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Marie ist für Kurs 1 angemeldet, aber der Prof. behagt ihr nicht und deswegen tauscht sie mit ihrer Freundin und geht in Kurs 2. Zum Ende des Semesters erfährt sie, dass sie eine 4 bekommen hat und ihre Freundin eine 1, obwohl sie ihre Leistung als gleich einschätzt.

Welcher Gedanke könnte Marie gerade durch den Kopf gehen?

- Wenn ich den Kurs nicht gewechselt hätte, hätte ich nun auch eine 1 bekommen.
- Es war Pech, dass ich keine 1 bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Franziska studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Franziska ist für Kurs 1 angemeldet, aber sie wird von ihrer Freundin gebeten den Kurs zu tauschen. Franziska geht nun in Kurs 2. Zum Ende des Semesters erfährt sie, dass sie eine 4 bekommen hat und ihre Freundin eine 1, obwohl sie ihre Leistung als gleich einschätzt.

Welcher Gedanke könnte Franziska gerade durch den Kopf gehen?" Then

- Wenn ich den Kurs nicht gewechselt hätte, hätte ich nun auch eine 1 bekommen.
- Es war Pech, dass ich keine 1 bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Connie studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Connie ist für Kurs 1 angemeldet, aber aus zeitlichen Gründen muss sie den Kurs mit ihrer Freundin tauschen. Connie geht nun

in Kurs 2. Zum Ende des Semesters erfährt sie, dass sie eine 4 bekommen hat und ihre Freundin eine 1, obwohl sie ihre Leistung als gleich einschätzt.

Welcher Gedanke könnte Connie gerade durch den Kopf gehen?

- Wenn ich den Kurs nicht gewechselt hätte, hätte ich nun auch eine 1 bekommen.
- Es war Pech, dass ich keine 1 bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Study Omission

FC: Anja studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Anja ist für Kurs 1 angemeldet, aber der Prof. behagt ihr nicht so und deswegen möchte sie mit ihrer Freundin tauschen, macht es aber doch nicht. Zum Ende des Semesters erfährt sie, dass sie eine 4 bekommen hat und ihre Freundin eine 1, obwohl sie ihre Leistung als gleich einschätzt.

Welcher Gedanke könnte Anja gerade durch den Kopf gehen?

- Wenn ich den Kurs gewechselt hätte, hätte ich nun auch eine 1 bekommen.
- Es war Pech, dass ich keine 1 bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Melanie studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Melanie ist für Kurs 1 angemeldet, wird aber von ihrer Freundin gebeten zu tauschen, macht es aber doch nicht. Zum Ende des Semesters erfährt sie, dass sie eine 4 bekommen hat und ihre Freundin eine 1, obwohl sie ihre Leistung als gleich einschätzt.

Welcher Gedanke könnte Melanie gerade durch den Kopf gehen?

- Wenn ich den Kurs gewechselt hätte, hätte ich nun auch eine 1 bekommen.
- Es war Pech, dass ich keine 1 bekommen habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Jana studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Jana ist für Kurs 1 angemeldet, aber wollte mit ihrer Freundin tauschen, musste jedoch aus zeitlichen Gründen in Kurs 1 bleiben. Zum Ende des Semesters erfährt sie, dass sie eine 4 bekommen hat und ihre Freundin eine 1, obwohl sie ihre Leistung als gleich einschätzt.

Welcher Gedanke könnte Jana gerade durch den Kopf gehen?

- Wenn ich den Kurs gewechselt hätte, hätte ich nun auch eine 1 bekommen.
- Es war Pech, dass ich keine 1 bekommen habe.

- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Work Commission

FC: Mirko arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Mirko entscheidet sich dafür, weil er die Fahrzeuge, die American Vans baut, ökonomischer findet. Ein halbes Jahr später erfährt er, dass American Vans Insolvenz angemeldet hat und Mirko nun arbeitslos ist.

Welcher Gedanke könnte Mirko gerade durch den Kopf gehen?

- Wenn ich die Firma nicht gewechselt hätte, hätte ich nun auch noch einen Job.
- Es war Pech, dass ich meinen Job verloren habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Dirk arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Dirk entscheidet sich dafür, weil er von seiner Familie darum gebeten wird. Ein halbes Jahr später erfährt er, dass American Vans Insolvenz angemeldet hat und Dirk nun arbeitslos ist.

Welcher Gedanke könnte Dirk gerade durch den Kopf gehen?

- Wenn ich die Firma nicht gewechselt hätte, hätte ich nun auch noch einen Job.
- Es war Pech, dass ich meinen Job verloren habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Leon arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Leon musste aufgrund personeller Umstrukturierungen zu American Vans wechseln. Ein halbes Jahr später erfährt er, dass American Vans Insolvenz angemeldet hat und Leon nun arbeitslos ist.

Welcher Gedanke könnte Leon gerade durch den Kopf gehen?

- Wenn ich die Firma nicht gewechselt hätte, hätte ich nun auch noch einen Job.
- Es war Pech, dass ich meinen Job verloren habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Work Omission

FC: Max arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Max entscheidet sich dagegen, weil er die Fahrzeuge, die United Vans baut, ökonomischer findet. Ein halbes Jahr später erfährt er, dass United Vans Insolvenz angemeldet hat und Max nun arbeitslos ist.

Welcher Gedanke könnte Max gerade durch den Kopf gehen?

- Wenn ich die Firma gewechselt hätte, hätte ich nun auch noch einen Job.
- Es war Pech, dass ich meinen Job verloren habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Florian arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Florian entscheidet sich dagegen, weil er von der Familie gebeten wurde nicht zu wechseln, da sie United Vans als umsatzstärker empfinden. Ein halbes Jahr später erfährt er, dass United Vans Insolvenz angemeldet hat und Florian nun arbeitslos ist.

Welcher Gedanke könnte Florian gerade durch den Kopf gehen?

- Wenn ich die Firma gewechselt hätte, hätte ich nun auch noch einen Job.
- Es war Pech, dass ich meinen Job verloren habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Tim arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Tim würde gerne wechseln, darf aber aufgrund personeller Entscheidungen nicht zu American Vans wechseln. Ein halbes Jahr später erfährt er, dass United Vans Insolvenz angemeldet hat und Tim nun arbeitslos ist.

Welcher Gedanke könnte Tim gerade durch den Kopf gehen?

- Wenn ich die Firma gewechselt hätte, hätte ich nun auch noch einen Job.
- Es war Pech, dass ich meinen Job verloren habe.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Quiz Commission

FC: Sabrina ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr noch einmal die Möglichkeit sich umzuentscheiden. Sie entscheidet sich nun aus dem Bauch heraus für Antwort C. Antwort D wäre richtig gewesen und Sabrina verliert 30.000 Euro.

Welcher Gedanke könnte Sabrina gerade durch den Kopf gehen?

- Wenn ich mich nicht umentschieden hätte, hätte ich nun auch 30.000 Euro mehr.
- Es war Pech, dass die Antwort falsch war.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Lisa ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr noch einmal die Möglichkeit sich umzuentscheiden. Sie entscheidet sich nun für Antwort C, weil ihr Freund, als Joker, sie darum bittet. Antwort D wäre richtig gewesen und Lisa verliert 30.000 Euro.

Welcher Gedanke könnte Lisa gerade durch den Kopf gehen?

- Wenn ich mich nicht umentschieden hätte, hätte ich nun auch 30.000 Euro mehr.
- Es war Pech, dass die Antwort falsch war.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Diana ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr noch die Möglichkeit einen Joker zu nehmen. Der Joker sagt Antwort C und Diana muss diese Antwort nun nehmen. Antwort D wäre richtig gewesen und Diana verliert 30.000 Euro.

Welcher Gedanke könnte Diana gerade durch den Kopf gehen?

- Wenn ich mich nicht umentscheiden hätte müssen, hätte ich nun auch 30.000 Euro mehr.
- Es war Pech, dass die Antwort falsch war.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Quiz Omission

FC: Ines ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr noch einmal die Möglichkeit sich umzuentscheiden. Sie bleibt bei Antwort D, weil ihr Bauchgefühl das sagt. Antwort C wäre richtig gewesen und Ines verliert 30.000 Euro.

Welcher Gedanke könnte Ines gerade durch den Kopf gehen?

- Wenn ich mich umentschieden hätte, hätte ich nun auch 30.000 Euro mehr.
- Es war Pech, dass die Antwort falsch war.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Stefanie ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr noch einmal die Möglichkeit sich umzuentscheiden. Sie bleibt bei Antwort D, weil ihr Freund sie als ihr Joker darum bittet. Antwort C wäre richtig gewesen und Stefanie verliert 30.000 Euro.

Welcher Gedanke könnte Stefanie gerade durch den Kopf gehen?

- Wenn ich mich umentschieden hätte, hätte ich nun auch 30.000 Euro mehr.
- Es war Pech, dass die Antwort falsch war.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Yvonne ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr noch einmal die Möglichkeit sich umzuentscheiden. Sie bleibt bei Antwort D, weil der Countdown abgelaufen ist und sie somit nicht mehr wechseln konnte. Antwort C wäre richtig gewesen und Yvonne verliert 30.000 Euro.

Welcher Gedanke könnte Yvonne gerade durch den Kopf gehen?

- Wenn ich mich umentscheiden hätte können, hätte ich nun auch 30.000 Euro mehr.
- Es war Pech, dass die Antwort falsch war.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Train Commission

FC: Markus will mit der Straßenbahn zum Bahnhof fahren. Er überlegt, ob er sich ein Ticket kaufen soll oder nicht. Er entscheidet sich dafür, weil er es als seine Pflicht ansieht für Leistungen zu bezahlen. Im Zug erscheint der Kontrolleur und fragt Markus nach seinem Ticket. Er kann es nun nicht mehr finden und muss 60 Euro Strafe wegen Schwarzfahrens bezahlen.

Welcher Gedanke könnte Markus gerade durch den Kopf gehen?

- Wenn ich es noch finden könnte, hätte ich auch nicht die Strafe bezahlen müssen.
- Es war Pech, dass kontrolliert wurde.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Eric will mit der Straßenbahn zum Bahnhof fahren. Er überlegt, ob er sich ein Ticket kaufen soll oder nicht. Er entscheidet sich dafür, weil seine Freundin ihn darum bittet. Im Zug erscheint der Kontrolleur und fragt Eric nach seinem Ticket. Er kann es nun nicht mehr finden und muss 60 Euro Strafe wegen Schwarzfahrens bezahlen.

Welcher Gedanke könnte Eric gerade durch den Kopf gehen?

- Wenn ich es noch finden könnte, hätte ich auch nicht die Strafe bezahlen müssen.
- Es war Pech, dass kontrolliert wurde.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Jörg will mit der Straßenbahn zum Bahnhof fahren. Er überlegt, ob er sich ein Ticket kaufen soll oder nicht. Er muss sich eines kaufen, weil er den Kontrolleur schon gesehen hat. Im Zug erscheint der Kontrolleur und fragt Jörg nach seinem Ticket. Er kann es nun nicht mehr finden und muss 60 Euro Strafe wegen Schwarzfahrens bezahlen.

Welcher Gedanke könnte Jörg gerade durch den Kopf gehen?

- Wenn ich es noch finden könnte, hätte ich auch nicht die Strafe bezahlen müssen.
- Es war Pech, dass kontrolliert wurde.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Train Omission

FC: Ralf will mit der Straßenbahn zum Bahnhof fahren. Er überlegt, ob er sich ein Ticket kaufen soll oder nicht. Er entscheidet sich dagegen, weil er die Preise als überteuert ansieht. Im Zug erscheint der Kontrolleur und fragt Ralf nach seinem Ticket. Da er keines gekauft hat, muss er nun 60 Euro Strafe wegen Schwarzfahrens bezahlen.

Welcher Gedanke könnte Ralf gerade durch den Kopf gehen?

- Wenn ich ein Ticket gekauft hätte, hätte ich auch nicht die Strafe bezahlen müssen.
- Es war Pech, dass kontrolliert wurde.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Daniel will mit der Straßenbahn zum Bahnhof fahren. Er überlegt, ob er sich ein Ticket kaufen soll oder nicht. Er entscheidet sich dagegen, weil seine Freunde ihn bitten sich zu beeilen. Im Zug erscheint der Kontrolleur und fragt Daniel nach seinem Ticket. Da er keines gekauft hat, muss er nun 60 Euro Strafe wegen Schwarzfahrens bezahlen.

Welcher Gedanke könnte Daniel gerade durch den Kopf gehen?

- Wenn ich ein Ticket gekauft hätte, hätte ich auch nicht die Strafe bezahlen müssen.
- Es war Pech, dass kontrolliert wurde.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Stephan will mit der Straßenbahn zum Bahnhof fahren. Er geht zum Ticketautomaten um sich einen Fahrschein zu holen, jedoch kann er sich keins lösen, weil der Automat nicht funktioniert. Im Zug erscheint der Kontrolleur und fragt Stephan nach seinem

Ticket. Da er keines gekauft hat, muss er nun 60 Euro Strafe wegen Schwarzfahrens bezahlen.

Welcher Gedanke könnte Stephan gerade durch den Kopf gehen?

- Wenn ich ein Ticket gekauft hätte, hätte ich auch nicht die Strafe bezahlen müssen.
- Es war Pech, dass kontrolliert wurde.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Kitchen Commission

FC: Michaela überlegt, einen Kredit über 5.000 Euro für eine neue Küche aufzunehmen. Sie entscheidet sich dafür, weil sie mit der alten Küche unzufrieden und unglücklich ist. Nach dem Einbau der neuen Küche verursacht Michaela einen Kurzschluss und bei der neuen Küche entsteht ein Schaden von 2.500 Euro.

Welcher Gedanke könnte Michaela gerade durch den Kopf gehen?

- Wenn ich meine alte Küche behalten hätte, hätte ich auch jetzt nicht diesen Schaden.
- Es war Pech, dass es einen Kurzschluss gab.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Katja überlegt einen Kredit über 5.000 Euro für eine neue Küche aufzunehmen. Sie entscheidet sich dafür, weil ihr Mann sie darum bittet. Nach dem Einbau der neuen Küche, verursacht Katja einen Kurzschluss und bei der neuen Küche entsteht ein Schaden von 2.500 Euro.

Welcher Gedanke könnte Katja gerade durch den Kopf gehen?

- Wenn ich meine alte Küche behalten hätte, hätte ich auch jetzt nicht diesen Schaden.
- Es war Pech, dass es einen Kurzschluss gab.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Carolin überlegt einen Kredit über 5.000 Euro für eine neue Küche aufzunehmen. Sie muss sich dafür entscheiden, weil die alte Küche eine Brandgefahr darstellt. Nach dem Einbau der neuen Küche, verursacht Carolin einen Kurzschluss und bei der neuen Küche entsteht ein Schaden von 2.500 Euro.

Welcher Gedanke könnte Carolin gerade durch den Kopf gehen?

- Wenn ich meine alte Küche behalten hätte, hätte ich auch jetzt nicht diesen Schaden.

- Es war Pech, dass es einen Kurzschluss gab.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Kitchen Omission

FC: Isabel überlegt einen Kredit über 5.000 Euro für eine neue Küche aufzunehmen. Sie entscheidet sich dagegen, da sie der Meinung ist, dass die alte Küche es noch ein paar Jahre schafft. Isabel verursacht einen Kurzschluss, die alte Küche ist nun nicht mehr nutzbar und der Elektriker muss Steckdosen und Kabel in der Wohnung erneuern; es entsteht ein Schaden von 7.500 Euro.

Welcher Gedanke könnte Isabel gerade durch den Kopf gehen?

- Wenn ich mir eine neue Küche gekauft hätte, hätte ich auch jetzt nicht diesen Schaden.
- Es war Pech, dass es einen Kurzschluss gab.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

RC: Monika überlegt, einen Kredit über 5.000 Euro für eine neue Küche aufzunehmen. Sie entscheidet sich dagegen, weil ihr Mann sie darum bittet, das Geld zu sparen. Monika verursacht einen Kurzschluss, die alte Küche ist nun nicht mehr nutzbar und der Elektriker muss Steckdosen und Kabel in der Wohnung erneuern; es entsteht ein Schaden von 7.500 Euro.

Welcher Gedanke könnte Monika gerade durch den Kopf gehen?

- Wenn ich mir eine neue Küche gekauft hätte, hätte ich auch jetzt nicht diesen Schaden.
- Es war Pech, dass es einen Kurzschluss gab.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

MC: Tamara überlegt, einen Kredit über 5.000 Euro für eine neue Küche aufzunehmen. Sie würde ihn gerne aufnehmen, kann es aber nicht, da die Bank ihr den Kredit nicht bewilligt. Tamara verursacht einen Kurzschluss, die alte Küche ist nun nicht mehr nutzbar und der Elektriker muss Steckdosen und Kabel in der Wohnung erneuern; es entsteht ein Schaden von 7.500 Euro.

Welcher Gedanke könnte Tamara gerade durch den Kopf gehen?

- Wenn ich mir eine neue Küche gekauft hätte, hätte ich auch jetzt nicht diesen Schaden.
- Es war Pech, dass es einen Kurzschluss gab.
- Ich kann es jetzt auch nicht mehr ändern und muss mich damit abfinden.

Vignettes of Experiment 7

Vignettes of Commission

Benjamin trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er überlegt, ob er Knieschoner für diesen Ausflug benutzt.

Jan trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er wird von seinen Freunden gebeten Knieschoner zu verwenden.

Michael trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Der Veranstalter schreibt das Tragen von Knieschützern vor.

Andrea beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie überlegt, ob sie Medikamente zur Verhinderung akuter Höhenkrankheit nehmen soll.

Nadine beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie wird von ihrem Freund gebeten Medikamente zur Verhinderung akuter Höhenkrankheit zu nehmen.

Heike beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Der Reiseveranstalter schreibt es vor Medikamente zur Verhinderung akuter Höhenkrankheit zu nehmen.

Dennis fährt nach Österreich Skifahren. Nach den Vorfällen der vergangenen Jahre auf den Pisten, überlegt er sich, ob er sich einen Skihelm kaufen soll.

Rene fährt nach Österreich Skifahren. Nach den Vorfällen der vergangenen Jahre auf den Pisten, bittet seine Freundin ihn, sich einen Skihelm zu kaufen.

Tom fährt nach Österreich Skifahren. Nach den Vorfällen der vergangenen Jahre auf den Pisten, schreiben die Pistenregeln das Tragen von Helmen vor.

Sven hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Sven überlegt, ob er ein Kondom verwenden soll.

Alex hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Die Frau bittet Alex ein Kondom zu verwenden.

Lukas hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Die Frau schläft nur mit ihm, wenn er ein Kondom verwendet.

Daniela ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Daniela überlegt, ob sie sich gegen Grippe impfen lassen soll.

Kerstin ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Kerstin wird von ihrer Familie gebeten sich gegen Grippe impfen zu lassen.

Julia ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Julias Arbeitsstelle schreibt vor, dass alle Mitarbeiter gegen Grippe geimpft sind.

Jessica möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Jessica überlegt, ob sie den Fehler noch überprüfen lassen soll.

Manuela möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Manuelas Mann bittet sie den Fehler noch überprüfen zu lassen.

Nicole möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Der TÜV schreibt vor, dass alle Airbagfehler unverzüglich überprüft werden müssen.

Michael besitzt Aktien der Firma X. Er überlegt, jene zu verkaufen, um sich Aktien der Firma Y zu kaufen.

Johannes besitzt Aktien der Firma X. Er wird von seiner Familie gebeten jene zu verkaufen und sich Aktien der Firma Y zu kaufen.

Christian besitzt Aktien der Firma X. Aufgrund ökonomischer Ereignisse, muss Christian diese nun verkaufen.

Marie studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Marie ist für Kurs 1 angemeldet, überlegt aber mit ihrer Freundin den Kurs zu tauschen.

Franziska studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Franziska ist für Kurs 1 angemeldet, aber sie wird von ihrer Freundin gebeten den Kurs zu tauschen.

Connie studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Connie ist für Kurs 1 angemeldet, aber aus zeitlichen Gründen muss sie den Kurs mit ihrer Freundin tauschen.

Mirko arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Mirko überlegt, ob er wechselt.

Dirk arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Dirk wird von seiner Familie gebeten zu wechseln.

Leon arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Aufgrund personeller Umstrukturierungen muss Leon zu American Vans wechseln.

Sabrina ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr noch einmal die Möglichkeit sich umzuentscheiden. Sabrina überlegt, ob sie Antwort C nimmt.

Lisa ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr die Möglichkeit einen Joker zu nehmen. Lisa wird von ihrem Freund gebeten Antwort C zu nehmen.

Diana ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr die Möglichkeit einen Joker zu nehmen. Diana muss nun Antwort C nehmen.

Markus will mit der Straßenbahn zum Bahnhof fahren. Er überlegt, ob er sich ein Ticket kaufen soll.

Eric will mit der Straßenbahn zum Bahnhof fahren. Seine Freundin bittet ihn sich ein Ticket zu kaufen.

Jörg will mit der Straßenbahn zum Bahnhof fahren. Er hat den Kontrolleur schon gesehen und muss sich ein Ticket kaufen.

Michaelas alte Küche gefällt ihr nicht mehr und hat auch ab und an Macken. Sie überlegt, einen Kredit über 5.000 Euro für eine neue Küche aufzunehmen.

Katjas alte Küche gefällt ihr nicht mehr und hat auch ab und an Macken. Ihr Mann bittet sie sich endlich eine neue Küche anzuschaffen und für diese einen Kredit über 5.000 Euro aufzunehmen.

Carolins alte Küche gefällt ihr nicht mehr und hat auch ab und an Macken. Um weiterhin kochen zu können muss sie einen Kredit über 5.000 Euro für eine neue Küche aufnehmen.

Vignettes of Omissions

Benjamin trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er überlegt, dass er KEINE Knieschoner für diesen Ausflug benutzt.

Jan trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Er wird von seinen Freunden gebeten KEINE Knieschoner zu verwenden.

Michael trifft sich mit einer Gruppe von Freunden zum Inlineskaten. Der Veranstalter VERBIETET das Tragen von Knieschützern.

Andrea beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie überlegt, dass sie KEINE Medikamente zur Verhinderung akuter Höhenkrankheit nehmen soll.

Nadine beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Sie wird von ihrem Freund gebeten KEINE Medikamente zur Verhinderung akuter Höhenkrankheit zu nehmen.

Heike beginnt eine mehrtägige Trekkingtour hinauf in eisige Höhenlagen. Der Reiseveranstalter VERBIETET es Medikamente zur Verhinderung akuter Höhenkrankheit zu nehmen.

Dennis fährt nach Österreich Skifahren. Trotz der Vorfälle der vergangenen Jahre auf den Pisten, überlegt er sich, sich KEINEN Skihelm zu kaufen.

Rene fährt nach Österreich Skifahren. Trotz der Vorfälle der vergangenen Jahre auf den Pisten, bittet seine Freundin ihn, sich KEINEN Skihelm zu kaufen.

Tom fährt nach Österreich Skifahren. Trotz der Vorfälle der vergangenen Jahre auf den Pisten, VERBIETEN die Pistenregeln das Tragen von Helmen.

Sven hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Sven überlegt, KEIN Kondom zu verwenden.

Alex hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Die Frau bittet Alex KEIN Kondom zu verwenden.

Lukas hatte ein tolles Date mit einer wunderbaren Frau. Nun sind sie bei ihr zuhause angekommen und es soll intim werden. Die Frau schläft nur mit ihm, wenn er KEIN Kondom verwendet.

Daniela ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Daniela überlegt, sich NICHT gegen Grippe impfen zu lassen.

Kerstin ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Kerstin wird von ihrer Familie gebeten sich NICHT gegen Grippe impfen zu lassen.

Julia ist häufig krank. Sie hat das Gefühl, dass sobald Grippeviren im Umlauf sind, sie jene automatisch auch bekommt. Julias Arbeitsstelle VERBIETET, dass Mitarbeiter gegen Grippe geimpft sind.

Jessica möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Jessica überlegt, den Fehler NICHT MEHR überprüfen zu lassen.

Manuela möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Manuelas Mann bittet sie den Fehler NICHT MEHR überprüfen zu lassen.

Nicole möchte mit ihrer Familie nach Kroatien in den Urlaub fahren. Am Tag vor der Abreise meldet ihr PKW einen Airbagfehler. Es ist Feiertag und Nicole kann nun NICHT den Airbagfehler überprüfen lassen.

Michael besitzt Aktien der Firma X. Er überlegt, jene zu behalten und KEINE Aktien der Firma Y zu kaufen.

Johannes besitzt Aktien der Firma X. Er wird von seiner Familie gebeten jene zu behalten und sich KEINE Aktien der Firma Y zu kaufen.

Christian besitzt Aktien der Firma X. Aufgrund ökonomischer Ereignisse, darf Christian diese nun NICHT verkaufen.

Marie studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Marie ist für Kurs 1 angemeldet, überlegt mit ihrer Freundin den Kurs NICHT zu tauschen.

Franziska studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Franziska ist für Kurs 1 angemeldet, aber sie wird von ihrer Freundin gebeten den Kurs NICHT zu tauschen.

Connie studiert Biologie. Für ein Seminar gibt es zwei Gruppen zu unterschiedlichen Zeiten mit verschiedenen Professoren. Connie ist für Kurs 1 angemeldet, aber aus zeitlichen Gründen kann sie den Kurs mit ihrer Freundin NICHT tauschen.

Mirko arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Mirko überlegt, dass er NICHT wechselt.

Dirk arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Dirk wird von seiner Familie gebeten NICHT zu wechseln.

Leon arbeitet bei der Firma United Vans. Die Firma bietet den Mitarbeitern an, zum Tochterunternehmen American Vans zu wechseln. Aufgrund personeller Umstrukturierungen darf Leon NICHT zu American Vans wechseln.

Sabrina ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr noch einmal die Möglichkeit sich umzuentscheiden. Sabrina überlegt, KEINE andere Antwort zu nehmen.

Lisa ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr die Möglichkeit einen Joker zu nehmen. Lisa wird von ihrem Freund gebeten KEINE andere Antwort zu nehmen.

Diana ist Kandidatin in einer Quizshow und hat es bis zur 60.000 Euro-Frage geschafft. Sie hat sich für Antwort D entschieden. Der Moderator gibt ihr die Möglichkeit einen Joker zu nehmen. Diana darf nun KEINE andere Antwort nehmen.

Markus will mit der Straßenbahn zum Bahnhof fahren. Er überlegt, sich KEIN Ticket zu kaufen.

Eric will mit der Straßenbahn zum Bahnhof fahren. Seine Freundin bittet ihn sich KEIN Ticket zu kaufen.

Jörg will mit der Straßenbahn zum Bahnhof fahren. Die Maschine ist defekt und so kann sich Jörg KEIN Ticket kaufen.

Michaelas alte Küche gefällt ihr nicht mehr und hat auch ab und an Macken. Sie überlegt, KEINEN Kredit über 5.000 Euro für eine neue Küche aufzunehmen.

Katjas alte Küche gefällt ihr nicht mehr und hat auch ab und an Macken. Ihr Mann bittet sie sich KEINE neue Küche anzuschaffen und für diese KEINEN Kredit über 5.000 Euro aufzunehmen.

Carolins alte Küche gefällt ihr nicht mehr und hat auch ab und an Macken. Um weiterhin Essen einkaufen zu können darf sie KEINEN Kredit über 5.000 Euro für eine neue Küche aufnehmen.

Erklärung

Erklärung gemäß § 8 Abs. 1 Buchst. b) der Promotionsordnung der Universität Heidelberg für die Fakultät für Verhaltens- und Empirische Kulturwissenschaften

Ich erkläre, dass ich die vorgelegte Dissertation selbstständig angefertigt, nur die angegebenen Hilfsmittel benutzt und die Zitate gekennzeichnet habe.

Erklärung gemäß § 8 Abs. 1 Buchst. c) der Promotionsordnung der Universität Heidelberg für die Fakultät für Verhaltens- und Empirische Kulturwissenschaften

Ich erkläre, dass ich die vorgelegte Dissertation in dieser oder einer anderen Form nicht anderweitig als Prüfungsarbeit verwendet oder einer anderen Fakultät als Dissertation vorgelegt habe.

Name, Vorname: Ostheimer, Vanessa Geraldine

Datum, Unterschrift: 11.12.2012 _____